NEW REMEDIES.

THERAPEUTICS.

THE ADVANTAGES OF LARGE ENEMATA IN THE TREATMENT OF INTERNAL DISEASES.

THE *Berliner Klinische Wochenschrift* of Nov. 10 last (No. 45, 1873), contains a paper by Professor F. Mosler, in which he first reviews the experiments of Gutav Simon (Langenbeck's *Archiv für Klinische Chirurgie*, XV. 1), who has shown that, when water is pretty forcibly injected into the rectum, it quickly traverses the large bowel, and may even go into the small intestine. Simon shows also that such injections are not in the least injurious to the patients. He had a good opportunity for testing this in a patient who had a fæcal fistula in the right inguinal region, in consequence of a gunshot wound. This fistula was at the junction of the ascending colon with the cæcum. To test the permeability of the lower portion of the bowel, he pumped water into the rectum, and the sphincter ani acted so well that in five minutes the fluid streamed out of the fistula. As the only inconvenience of these injections was a feeling of fulness all along the colon, they were often repeated. Simon repeated the experiment in a second patient, with a fæcal fistula in the right inguinal region, the result of circumscribed peritonitis. From its situation, it must have communicated either with the ascending colon or cæcum, or with the small intestine. The latter is most probable, because only very thin fæcal matter came away. Dr. Alfred Hegar (*Ueber Einführung von Flüssigkeiten in Harnblase und Darm*, F. Wagner, Freiburg) has

lately proposed the use of irrigators, for both bladder and rectum, instead of syringes and clyster-apparatus, on the score of economy, efficiency, and safety. He lays considerable stress on the slight force necessary in positions in which the intra-abdominal pressure is less than that of the atmosphere [?] and he believes that there may be cases in which there may not only be no hindrance to the entrance of fluids, but in which this negative abdominal pressure may actually facilitate their entrance. His whole apparatus consists of a catheter for the bladder, an appropriate tube with an olive extremity for the rectum, with an India-rubber tube 1½ feet long, attached to a glass funnel. With such an apparatus, clysters can easily be given in the usual dorsal and lateral positions; but if we wish the injection to fill the upper part of the bowel, the "knees and elbows" position, or a similar one, in which the knees and shoulders are made to support the patient so that the head and chest are much lower than the pelvis, or the J. Marion Sims position (far less suitable), should be adopted. The olive end of the pipe being inserted in the anus, the funnel should be slightly elevated; and, to avoid introducing air, one pinches the lower end of the tube, till the funnel and tube are both full. The first portion flows in freely enough, the second and third will require the funnel to be raised higher. In this way 5 to 9 *schoppen* (about as many pints) or more can be injected.

Mosler discusses these positions, and justly says that, apart from all other reasons, many patients could not assume them without a good deal of pain and inconvenience; the position of the head would be intolerable. These reasons induced Mosler to try if the ordinary dorsal position, without special elevation of the pelvis, might not be adopted with Hegar's apparatus, if only the tube were somewhat elongated, and the funnel raised higher. The result fully justified his expectations. With gradual introduction of fluid (to which end he adapted a "pinch-cock" to the tube) from three to four litres (four to six pints nearly) of warm water were sometimes introduced and retained for three hours. If suddenly introduced, the fluid was in general as suddenly expelled. His object now was to ascertain how far the injections penetrated. In all cases, in which four to six pints were injected, he was able to show that the ilio-cæcal region, which before the injection gave a tympanitic percussion-note, was markedly dull after the operation. Of this his colleagues also were satisfied. Some experiments in the dead-house with water tinged with aniline were not quite satisfactory. He therefore availed himself of Simon's invitation to experiment on a living patient with cæcal (fæcal) fistula. The experiment was made on Sept. 26, Drs. Bartels (of Kiel), and Jürgensen (of Tübingen), being present. The patient had a fæcal

fistula, in consequence of a hernia in which gangrene had occurred, just at the site of the juncture of the ascending colon with the cæcum. In fact, the exploring fingers could feel the sac of the cæcum, and the ilio-cæcal valve. The patient's pelvis was not elevated, and he lay on his back simply. The funnel was raised about two feet, and one and a half litre (two and a half pints nearly) of warm water were contained in the tube; this flowed so quickly through, that in less than two minutes it had traversed the large intestine, and streamed out of the fistula, bringing with it a piece of meat which had been placed there to test the digestive power of the large intestine. About half the bulk named (about one and a quarter pints) of the water flowed in before any escaped from the fistula. MM. Baum, of Göttingen, and Spiess, of Frankfort-on-Main, had previously witnessed a similar experiment. It is, therefore, certain that fluids will traverse the whole of the large bowel in the dorsal position, when an India-rubber tube of some two feet long or so, with a funnel at one end, filled with water, and furnished with an olive end for the rectum, is introduced into the anus. Dr. Mosler considers the use of such injections to be indicated:—

1. In cases of intestinal obstruction. He says he has met with most striking instances of success in this simple way.

2. Simon suggests the use of similar means in the earlier stages of some forms of internal hernia and internal strangulation, retro-peritoneal and diaphragmatic hernia, etc.

3. In diseases of the large intestine, especially dysentery, to clear away irritating and fæcal materials, to apply disinfectants, astringents, etc.; the dorsal position, being convenient to both the patient and the attendants, is likely to facilitate their co-operation. Iced water may thus be used to check hemorrhage.

4. Röhrig, in his experimental investigations of the physiology of the biliary secretion (*Exper. Untersuch. u. d. Physiol. der Galensabsonderung*, Wien, 1873), has shown that injections of water into the intestinal canal increase the secretion of bile more than injections into the blood-vessels, and further that the bile becomes less viscid and more transparent; it is, therefore, more reasonable to use them in the treatment of many forms of jaundice, especially catarrhal forms and cholilithiasis. Dr. Mosler has tested this with good results.

5. In helminthiasis this method has advantages. Tineæ are sometimes expelled from the small intestine, but fasten on again to the colon; impatient people will often break them off when only partially expelled. One or two litres of water (1½ to 3 pints), with equal parts of warm milk, will cause their perfect expulsion. A tænia mediocanellata was thus expelled perfectly unbroken. We know, too, that the

oxyuris vermicularis inhabits the whole large intestine. Therefore large enemata are required for its cure. A tablespoonful of liquor chlori, or half as much benzine to a litre of warm water, is best for this. Dr. Mosler generally combines the use of one or two tablespoonfuls of the following mixture at bedtime:—

℞. Santonine	16	grains.
Castor oil	1½	ounces.
Syrup of raspberries	6	ounces.
Chloroform	½	drachm.

Mix. To be shaken before using.

Tomato-leaves as a Diuretic.—A French writer extols the leaves of the tomato (*Solanum Lycopersicon*) as a diuretic.—*Pacific Medical and Surgical Journal.*

Diabetes.—Dr. O. Shultzer claims great success in the treatment of diabetes under the free use of glycerine internally, with citric acid and abstinence from starchy food.

SULPHUR INHALATIONS AT AMÈLIE-LES-BAINS.

Dr. Bouyer writes to the *Gazette des Hôpitaux*, regarding the influence of inhalations of the vapors of these baths during the winter season upon persons having chronic pulmonary affections. The baths are situated about 700 feet above sea-level, in the Eastern Pyrenees, in a sheltered situation. The waters owe their efficacy to the sulphurets and sulphates, the temperature of the different springs varying between 100° and 150° Fahr. "The actions of the inhalations are," Dr. Bouyer remarks, "primary and secondary."

The primary effects are perceived after a few minutes have been spent in the inhaling-room. The patients experience a sensation of comfort, which is accompanied by a greater facility in respiration, and a diminution in the frequency and the dryness of the cough. At the same time the skin becomes slightly moist, and a notable diminution in the frequency and intensity of the pulse is observed.

If the visit be prolonged beyond a certain time, the sedative phenomena are replaced by those of excitation, which become evident through acceleration of the respiration and the circulation, heaviness in the head, turgescence of the face, cephalalgia, fits of dry coughing, and sometimes thoracic pains.

The succession of these phenomena is especially observed in asthmatic people, and with them it is better to curtail the duration of the inhalation.

The secondary effects of the inhalations are as follows: After several visits the cough diminishes in frequency, and is no longer accompanied by a feeling of dryness and inconvenient pricking in the pharynx or the upper part of the trachea. The expectoration becomes easier and more abundant, the sputa become more fluid and changed in character; at first muco-purulent, they become mucous, then seromucous, and then become progressively less in quantity; the thoracic pains diminish in intensity, and respiration tends to assume its normal rhythm.

This double action of the inhalations must be attributed partly to the sulphuretted hydrogen, and partly to the steam. On commencing to use inhalations, some patients experience the symptoms of excitation in a very marked degree, and such people should commence with the weak inhalations in the Roman gallery.

There are a few cases in which these troublesome symptoms persist, and in which inhalations are altogether contra-indicated. They ought never to be used in affections of the heart or circulatory system, nor in senile catarrh complicated with general emphysema, nor in recrudescent inflammation of the bronchial tubes or lungs, nor when the affection of the respiratory passages is complicated by a neuropathic condition associated with a uterine affection.

The following affections are most favorable for treatment: dry laryngeal catarrh, granular pharyngitis, chronic bronchitis associated with herpetism or arthritis, simple bronchitis, asthma, and chronic congestion of the lungs.

In phthisis, inhalations are useful in soothing the cough and in diminishing the bronchial hypersecretion which often excites the caseous and tubercular foci; but it is in long-standing disease, where the recent accidents of the attack have passed away, and in the torpid and scrofulous forms of phthisis, that the best results are seen.

In acute phthisis, or where there is a tendency to nervous erethism or hæmoptysis, inhalations must be forbidden. Fever does not constitute an absolute contra-indication for inhalations; when the fever is slight and irregular and does not appear to be dependent on inflammation of the lungs, good results are often obtained. When, however, fever is associated with hectic, or is due to softening of pneumonic products, inhalations must be prohibited; and the same rule holds good when the persistence and the intensity of the fever do not correspond with the local disorders, because, in these cases, the rapid development of miliary tubercle must always be feared.

INJECTION OF IODINE DURING ACUTE INFLAMMATION.

Dr. Menzel, Senior Surgeon to the Trieste Civil Hospital, has published an article in the *Gazette Medica Lombardia* of July 19, on "The Injection of Iodine into Tissues which are the seat of Acute Inflammation." He observes, that while during the last ten years various articles have been injected into the substance of tissues affected with different forms of chronic disease, he is not aware of any instances in which such practice has been pursued during the existence of acute inflammation. Repugnance has been felt to injecting tissue, the seat of acute phlogosis, with substances possessing more or less power of inducing inflammatory action. His object in the present paper is to show that such practice may nevertheless be attended with great benefit; and, although he certainly is able to adduce but very slight evidence in favor of this view, we may as well lay it before our readers. During last spring diphtheria prevailed severely in Trieste, defying the various remedies employed, such as cauterization, the chlorate and permanganate of potash, carbolic acid, quinia, etc. Most of the children brought to the hospital were already affected with excessive bilateral tumefaction of the cervical glands, the lymphadenitis pursuing a rapid course in diphtheria, and producing a far greater amount of swelling than is observed in ordinary catarrhal tonsillitis. In the author's opinion, the frequent inefficiency of caustics arises from the circumstance that the morbific agent has been transported from the parts accessible to their action (as the tonsils, velum, etc.,) to the glands of the neck, and thence into the circulation. Under such circumstances the caustics will only act by limiting the local gangrene; and, although the tonsils may be freed, the ganglionary intumescence and the general symptoms persist, and the patients succumb. The question arose whether the "parenchymatous injection" of iodine might not arrest the local destructive process, and at the same time, by its absorption, exert a favorable effect on the progress of the disease. The first case in which it was tried seemed to realize the most sanguine expectations. A girl, aged 6, when brought in, had been ill two days, and tonsils were so swollen as to be in intimate contact with each other. The removal of the white membrane which covered them exposed an ulcerated surface. Beneath the angle of the jaw, on each side, were two or three glands the size of walnuts, of an elastic consistency, and very tender to the touch. Each tonsil, by means of a Pravaz syringe, was injected with four drops of Lugol's solution. Next day the tonsils were found reduced to their normal dimensions, and the glandular swellings were hardly perceptible. In other cases the iodine was injected in part into the tonsils and in part into the arch of the palate

and velum, and was repeated daily until the tonsils were reduced. Of seven children so treated, three recovered; and although two died, and the other two, not being heard of again, probably also died, yet, as the epidemic was a severe one, even this amount of success is not to be despised. Dr. Menzel, however, admits that he has not brought much material forward, but he observes that the means are quite innocuous, and are productive of no local inconvenience.—*Med. Times and Gazette*, Aug. 2.

THE USE OF THE DIFFERENT OXIDIZED ETHEREAL OILS IN PHAGEDENIC ULCERATIONS.

Cheron (*Med. Neuigkeiten*) summarizes his experience as follows: 1. Camphor is the type of oxidized ethereal substances, and their fumes, as also the substance in powder, have the property of arresting destruction of tissue and causing the healing of phagedenic and lupoid ulceration. With the substances devoid of oxygen, of which the oil of turpentine is the type, such results cannot be attained. 2. Pulmonary cavities of tuberculous patients, in many cases, heal in a short time after the inhalations of these substances. 3. The sputa of patients treated in this manner have been examined according to Fenwick's method. The elastic fibres which were at first detected, gradually diminished after a continued use of the remedy, and finally disappeared entirely, proving the great value of this remedy in phthisis pulmonalis. 4. The freed vapor of these substances is not disseminated throughout the atmosphere of the room. 5. All the oxidized ethereal oils can be used with equal success. 6. The preference, however, must be given to the ol. lauri camph. and ol. cedri, the pleasant and sweet smell of which is well borne by the patients. 7. Continued high fever, rapid progress of the malady, advanced emaciation and loss of strength, contra-indicate the use of these substances. 8. In the torpid and slowly progressing phthisis, with cough, abundant expectoration and dyspnœa, and, toward the end, of a pneumonia, this method has proved of therapeutic value. 9. Under the influecne of this treatment an easier expectoration results, the cough and dyspnœa cease, the appetite returns, the strength increases, the hectic fever diminishes and finally disappears, the patient regains weight, and in many cases all symptoms of disease disappear, and a complete recovery results. 10. Treatment by these means does not exclude the use of more active agents—cod-liver oil, quinine, and good diet. An arrest of the destruction of the pulmonary tissue is accomplished, giving the physician an opportunity to treat the tuberculous diathesis. 11.

Hitherto, satisfactory results have only been observed after the use of camphor, as in the treatment of gangrene, for which the remedy has been considered a panacea. The other oils, however, have a similar and, in some cases, greater effect; the truth of which will be recognized after a more extended use.—*Memorabilien*, 3, 1873; *New York Med. Jour.*

PHYSIOLOGICAL ACTION OF THEINE, CAFFEINE, COCAINE, THEOBROMINE, AND GUARANINE.

It has hitherto been supposed and stated by many authors that theine and caffeine are inert substances, and that the physiological effects of tea and coffee are not due to these neutral principles, at all events in a state of isolation. From experiments conducted by himself, Dr. Alexander Bennett has arrived at the following conclusions:—

1. The physiological actions of tea, coffee, guarana, coca, and cacao are mainly, if not entirely, due to their proximate principles.

2. Theine, caffeine, guaranine, cocaine, and theobromine are powerful poisons, inducing a series of symptoms affecting the nervous, respiratory, circulatory, vaso-motor, and glandular systems, and which terminate, if the dose be large enough, in death.

3. These five principles are to all appearances identical in physiological action.

4. In small doses, not ending fatally, they produce—1st, cerebral excitement not succeeded by coma; and 2d, partial loss of sensibility.

5. In large doses they produce—1st, cerebral excitement; 2d, complete paralysis of sensibility; 3d, tetanic spasms and convulsions; and 4th, death.

6. They paralyze the entire posterior columns of the spinal cord, also the entire system of peripheral sensory nerves; but the anterior columns of the cord, and the peripheral motor nerves, are not paralyzed.

7. They frequently produce convulsions of a clonic character, but occasionally they cause tetanic spasms, which latter are sometimes so severe as to cause opisthotonos. They do this, not by excitation of the reflex function, but probably by acting directly on the cord itself.

8. They do not produce muscular paralysis.

9. They at first increase, then impede, and lastly stop the respirations.

10. They at first increase, and finally diminish, both the force and frequency of the heart's contractions.

11. They produce at first contraction, and afterwards dilatation, of

the capillaries and small blood-vessels, with stasis of the blood, indicating first irritation, and subsequently paralysis, of the vaso-motor nerves.

12. They affect the temperature by, 1st, slightly lowering, and, 2d, increasing it.

13. They usually produce contraction of the pupil.

14. They produce an increase of the salivary secretion.

15. They induce a peculiar form of tenesmus, accompanied by a copious discharge of clear mucus from the bowels.

Dr. Bennett gives diagrams of the respiration, pulsation, and temperature, with elaborate tables of the results of his experiments, and details the manner of their performance. The animals used were frogs, mice, cats, and rabbits.—*Edinburgh Medical Journal*, October, 1873.

THE THERAPEUTICAL HISTORY OF CALOMEL.

Professor Bellini discusses this subject in an essay reviewed in the *Dublin Journal of Medical Sciences*, Oct., 1873. We learn from the review that the object of the essay being the possible change, either partial or complete, of calomel into corrosive sublimate within the living body of either man or of the inferior animals, he subdivides his matter under two heads:—

"(*a*) Of the changes undergone by calomel taken into the system by the mouth.

"(*b*) Of the changes that may be produced in it when applied externally to either diseased or healthy surfaces, or introduced hypodermically."

Having stated, as the fact earliest known (A.D. 1763), that a noxious compound resulted from the union of calomel with an ammoniacal salt, he adverts next to the opinion which was advanced after a few years, that in the presence of salts, which would now be termed alkaline chlorides, calomel was liable to be changed into corrosive sublimate. Many years later this appeared to be confirmed by the experience and authority of Pettenkofer. Later still, Mialhe, having in his experiments ascertained that the quantity of corrosive sublimate produced was not proportionate to that of the calomel employed, but had a direct relation to that of the alkaline chlorides present, and also of the air or gases with which the mixture might be in contact, arrived at the conclusion that calomel owed all its medical virtue to its transformation into corrosive sublimate within the alimentary canal. From this conclusion Professor Bellini dissents, as he also does from that of Bouchardat, according to which the change in the calomel is pro-

duced in the small intestines by the agency of alkaline carbonates existing in the enteric juices. Bellini, by experiments which he details, found that calomel was not only altered, as previously observed, by or in the presence of alkaline carbonates, but also by the free acids of the gastric juice, especially by the lactic, and that this was sensibly influenced by the conditions of fasting and repletion. He also found that although a soluble compound of mercury was produced, it yet differed from corrosive sublimate in not coagulating albumen, and not being precipitable by the alkaline carbonates. Analogous results were obtained in experiments on mixtures of calomel with protein and other alimentary substances in circumstances of temperature as nearly as possible similar to those of the living stomach. All these numerous and well-designed experiments appear to have been made with scientific caution and a due appreciation of possible disturbing causes. The changes undergone by calomel applied externally were investigated with equal care, and the results brought into connection with what has been observed of its effects when used either epidermically or hypodermically.

From all this laborious investigation Professor Bellini deduces twenty-four several conclusions, into which he sums up what he proposes as results established by clinical experience and experiments in the chemical laboratory. Of these we subjoin what appear to be the most practically important:—

"That calomel introduced by the mouth into the fasting subject is, in a very small portion of the stomach, and a greater of the small intestine, changed into a soluble mercurial compound.

"That in the stomach this change is effected by the lactic acid and the alkaline chlorides, and in the small intestine by the alkaline carbonates of the enteric fluids.

"That calomel introduced into a stomach which is digesting protein aliments is either wholly or almost decomposed within that viscus, and that the results of such decomposition are metallic mercury and a soluble mercurial compound.

"That acid drinks and fruit should be withheld during the use of calomel; but that magnesia, whether calcined or carbonated, administered during a course of calomel, promotes the local action of that mercurial.

"That the use of calomel may be injurious when contemporaneous with that of ammoniacal salts, and also in certain diseased conditions, *e.g.*, in those suffering from ammoniema, uro-ammoniema, cholera, typhus, etc.

"That the use of calomel might cause poisoning when administered contemporaneously with the hydrochloride of ammonium, with the aqua

lauro cerasi, with the alkaline or the metallic iodides and bromides, the alkaline sulphides, and the alkaline hydrobromates and hydriodates.

"That opium and its preparations exercise no decomposing power on calomel, but render its effects less perceptible, not by any chemical action, but by their control of the sensibility.

"That calomel applied externally, whether to a whole or an ulcerated surface, or introduced hypodermically, may be rendered soluble by the alkaline chlorides of the organic fluids with which it is brought into contact.

"That such external application may produce severe local lesions, if there be contemporaneous internal use of the alkaline iodides, bromides, or sulphides, or even of sulphur itself in small and frequent doses.

"And that lastly, clinical observation is in complete harmony with the results of chemical and physiological research."—*London Medical Record.*

ANÆSTHESIA BY VELOCITY.

Prof. Edward Andrews, of Chicago, communicates to the *Chicago Medical Examiner*, Nov. 15th, his experiments in producing painless incisions without anæsthetics. He says:—

Mechanical injuries received from bodies moving at a high velocity are painless. The cannon-ball which, under full motion, takes away a limb, occasions but little sensation, while one which strikes with a slow motion may cause acute suffering. In the same manner, a rifle-ball, flying at a high velocity, cuts its way through the body without pain, while the spent bullet, striking the soldier, and only contusing him, is felt with great severity. In civil practice similar facts occur, as the following cases show:—

(He here cites a number of cases in illustration.)

It is the universal testimony of mechanics, that incisions made by saws moving from 100 to 200 feet per second are absolutely painless. Thus, in one of the great packing-houses of Chicago, the carcasses of the slaughtered animals are cut up for packing by a circular saw revolving at about 200 feet per second. At this velocity the saw cuts the meat *more smoothly than a knife*, and the workmen, who are occasionally wounded by it, uniformly assert that the incisions are wholly painless.

From various observations, I judge that the minimum velocity necessary to make a saw cut without pain is between 100 and 150 feet per second. Probably the velocity of a bullet wounding painlessly must be somewhat greater, as it is a blunter object. The ordinary army musket-ball has a velocity, when first leaving the gun, of 1,700 feet in a sec-

ond; but the motion is rapidly checked by the resistance of the air, so that the minimum velocity of a bullet wounding painlessly may be only 600 or 700 feet per second, or even less. These facts render it evident that the human flesh may be cut or torn without pain by any object moving between 150 and 1,000 feet in a second.

Several surgical instruments have been in use, designed to diminish pain by increased velocity. The spring-vaccinator, the spring-lancet, and the various kinds of scarificators are examples of this class; but none of them make any pretence of obtaining complete painlessness, unless applied on surfaces where from dropsy, or other causes, they act on tissues possessing diminished sensibility. From my tests, I do not think any of them attain to one-third the swiftness requisite for painless incisions. Reflection upon these facts has induced me to commence a series of experiments to determine whether it is possible to devise an instrument small enough for convenience in surgery, and swift enough to cut without pain. These experiments have not yet been fully successful; but their results give hope that further research will enable us yet to introduce into surgery the important improvement of *anæsthesia by velocity.*

The author's first instrument is a kind of spring-knife, which to his disappointment attained a motion of only twenty-nine feet in a second, but the fifth of the motion desired. "The result was still a remnant of pain when applied to an abscess or hydrocele. I next ordered an instrument having fifty pounds tension" [of which a plate is given]. The knife is liberated by a trigger, and the depth of the incision is regulated by a sliding foot to the instrument. The sweep of the knife is so rapid as to be almost invisible, and it cuts a hair in mid-air without difficulty, yet it moves only about seventy feet in a second, which is less than half what is necessary to abolish the pain of the incision. The result is, that the patients on whom it has been tried still experience some suffering.

It is worthy of question whether, for very high velocities, a small circular saw would not be the best cutting instrument. Experience in the packing houses shows that, at two hundred feet in a second, a saw cuts beef more smoothly than a knife, so that the wound made by it in living tissue would probably unite by first intention without difficulty; and the fact that each tooth takes away, with the velocity of lightning, its little particle of flesh, without shock to surrounding parts, would probably be favorable for painless action. The difficulty of giving this rapid motion to a saw carried on a portable handle is very great; however, I have in progress some experiments which will at least settle the value of the principle, and may, I hope, result in a useful addition to our surgical resources.

THE EMPLOYMENT OF MINT FOR THE SUPPRESSION OF THE MILK.

Dr. Dasara observes that the knowledge of the anti-galactagogue properties of mint appears to have been possessed in very ancient times, since Dioscorides mentions the fact in his works, and subsequent writers have only confirmed his statements. Linnæus observed that cows that ate mint in their pastures yielded a very serous milk, and Læwis affirmed that the coagulation of milk in which some leaves of mint were placed, was retarded. More recently, M. Desbois de Rochefort, experimenting on mint, found that fomentations of mint applied to the breast, and the infusion taken internally, were capable of suppressing the lacteal secretion, and of preventing the usual accidents attending milk fever in puerperal women. Trousseau expressed some doubts respecting this action of mint, in his Materia Medica. But Dr. Pasquale Pipre, in a note on Trousseau's observations, remarks that the fresh leaves of the mint placed in the axilla arrest the secretion of milk. Dr. Dasara determined to experiment for himself, and gives the details of a series of cases in which he tried the effects of the application of mint poultices, made from the young sprigs, at different periods of lactation. He found:—(1.) It is an established fact that mint has the power of suppressing the lacteal secretion. (2.) The suppression of the secretion takes place at whatever period of lactation the mint is employed. (3.) The effect takes place in a very short space of time; according to his experiments in from three to five days. (4.) The suppressive action of mint can be localized to one breast. (5.) No danger, nor even any inconvenience arises, either to the mother or child, either from the use of the mint, or from the suppression of the secretion. Sig. Dasara does not state the species of mint he employed. —*The Practitioner*, October.

The Action of the Cinchona Alkaloids and some of their Congeners on Bactria and Colorless Blood-Corpuscles.—Dr. E. Buchanan Baxter, Tutor in King's College, London, has made a series of experiments with a view to determining the nature of this action, and communicates to *The Practitioner*, of November, his results, from whence we extract the following:—

"These experiments seem to show that the cinchona alkaloids, in greater proportion than is needful to arrest the multiplication of microzymes, exert no influence on the growth of *penicillium*; that the same proportion of mercuric chloride renders the spores absolutely barren; that sodic sulphite and hyposulphite are without any effect; but that the latter, in acid solutions, yielding free sulphur and sulphur dioxide, appears to check the development of the spores.

Quinia, as an antiseptic, has thus been compared with—

1. Mercuric chloride, sodic sulphocarbolate, and strychnia—substances to which antiseptic properties are ascribed.

2. Berberin, beberia, picrate of potassium, quinidine, cinchonia, cinchonidine, æsculin—substances credited with antiperiodic virtues.

3. Sodic sulphite and hyposulphite—to which both antiseptic and antiperiodic properties are attributed.

The following thoughts are suggested by this comparison:—

1. Quinia is doubtless excelled by other antiseptics, but there is no substance equal to it in antiseptic power which can be introduced into the blood in the same proportions without risk of fatal effects, if we except the other cinchona alkaloids and the sulphate of beberia.

2. Quinia, in such fractional doses as are capable of being introduced into the circulation, exerts an inhibitory, not a toxic, action upon microzymes. It *may* check septic changes; it cannot destroy the organisms to which such changes are due.

3. The four cinchona alkaloids are very nearly equal in antiseptic power. Arranged in the strict order of their efficacy, they stand thus: Quinia, quinidine; next comes cinchonine; last, though at no great distance, cinchonia.

4. It is a singular circumstance that this order corresponds to that in which the four alkaloids are arranged in the Report of the Madras Cinchona Commission in 1868, with reference, not to their antiseptic, but to their *antiperiodic* power, as determined by clinical experience. This report establishes—

(*a*) That quinidine equals quinia in febrifuge action.

(*b*) That cinchonidine is only slightly less efficacious.

(*c*) That cinchonia, though somewhat inferior, is notwithstanding a valuable remedial agent in fever.

This agreement may possibly be due to coincidence; if not, it seems to afford some countenance to the zymotic theory of the paludal miasm; or it would perhaps be more correct to say that it does not *oppose* it. It really shows no more than that the one property is in some way correlated with the other; it does not prove their identity.

5. Among reputed antiperiodics the sulphate of beberia seems to equal quinia in antiseptic power.

6. Among reputed antiseptics sodic sulphocarbolate and strychnia have a decided value, though they stand some way below quinia.

7. Sodic sulphite has a feeble, though decided, antiseptic power; sodic hyposulphite little or none.

8. Berberin and æsculin are hardly, if at all, antiseptic.

9. Potassic picrate is a strong antiseptic, almost, if not quite, equal to quinia. It is doubtful, however, whether it can be administered in sufficient doses without danger to life.

10. The action of inhibitory drugs on the vitality of microzymes affords no clue to their action on penicillium. Substances like mercuric chloride, which are immediately fatal to the former, arrest the growth of the latter when employed in the same minute proportions.

BELLADONNA PLASTER IN OBSTINATE VOMITING.

Dr. Guéneau de Mussy recommends, in obstinate vomiting, diachylon plaster and theriac plaster, of each two parts, and extract of belladonna one part, the plaster being twelve centimeters in diameter. It may remain applied to the epigastrium for twelve or fifteen days without being renewed; and out of the thousands which he has employed the author has only met with one case in which an idiosyncrasy caused some ill effects to result. It is not meant to be asserted that this means always succeeds, but it has succeeded in a very great number of cases, either in entirely relieving vomiting or greatly mitigating it, some remarkable examples of which are alluded to in the paper. This success has encouraged Dr. Guéneau de Mussy to try the effect of the plaster as a prophylactic and curative in sea-sickness, and although as yet he has only tried it in four cases, he entertains great hopes of the benefit to be derived, and at all events thinks that so simple a remedy deserves further trial in so extremely painful an affection which has hitherto resisted all measures of relief. The first of these four cases occurred in the person of a young married lady, who never could place foot on a vessel without being tortured by sea-sickness, and who always landed in a state of exhaustion and semi-syncope. Having to make a voyage to Australia, she was advised to try the belladonna plaster, and after having some vomiting on the first day, she, when last heard of, had traversed the Red Sea without sickness and in good health. A Brazilian physician, who had made several visits to Europe, and every time had been tormented by repeated and obstinate vomiting, and suffered greatly from this, eagerly adopted the plaster, and although in his last voyage the passage was a very bad one, he only felt slight nausea. A great personage of the same country was also a constant victim of sea-sickness, but on the last occasion he made the passage without any attack, and was able to walk the deck, which he had never done on any of the other passages. On board the same vessel was a lady in whom sea-sickness had produced, if not alarming, yet very distressing symptoms. One of the plasters was applied, and in the course of a few hours the vomiting, which had been incessant, completely ceased, so that the patient was enabled to join the other passengers on deck.—*Med. and Surg. Reporter.*

LIME-BATHS IN MEMBRANOUS CROUP.

In the *Chicago Medical Examiner* of August 15, Dr. John Bartlett commends the following method of using lime-baths in membranous croup:

"Having formed a small enclosure by covering a clothes-horse with sheets, or by taking advantage of the favorable relation of a door to the corner of a room, so as with bed-clothes to close in a suitable space, the preparations proceed as follows: To one side of the tent, on a piece of old carpet, is placed a small tub; in it is put a common wooden bucket, one-quarter filled with boiling water; at hand is a supply of unslacked lime, and a kettle of boiling water. The nurse and child, or the child alone, if of such age as to remain without an attendant, take position towards the middle of the enclosure, the face of the patient being turned from the tub; by raising the sheet, several pieces of lime, as large as the fist, are placed in the bucket; after a few minutes the evolution of the vapor begins. The physician, through that fold of sheeting forming the door of the tent, frequently takes a view of the steam within, estimating its density by the sight, taste, and smell. It is impossible to indicate the proper degree of this density. I should say it should be somewhat less than that of the cloud of steam escaping from the exhaust-pipe of a steam-engine. The smell and taste of lime should not be too pronounced. The nurse should be instructed to give notice if the steam or heat oppress her, so as to produce a feeling of faintness, sense of suffocation, or irritation of the air-passages. Should the vapor be deemed too dense, its intensity may be diminished by opening the flap of the enclosure, or, if need be, by withdrawing the bucket. The pulse of the patient should be noticed from time to time, in view of the possibility of exhaustion supervening, an event said to have occurred in the practice of some physicians. More lime and hot water may be placed in the bucket as required. The tub is intended to receive any overflow from the bucket, which, in prolonged cases, will require to be emptied."

He further says: "The modus operandi of the agent is uncertain; of course, the simplest theory is that it dissolves the false membrane. Some, as Drs. Meigs and Pepper, refer all benefit from its use to the heated steam evolved. Dr. J. L. Smith suggests that the lime-bath may be an improvement on the steam-bath, in this, that in the latter, on account of the necessity of keeping the room closed, the air soon becomes charged with exhaled carbonic acid, whereas in the former the expired acid is speedily destroyed by the vaporized lime. May it be possible correctly to extend this idea of Dr. Smith's? Thus, the dyspnœa is in great part a result of the inability of the respiratory organs

to relieve the blood of its carbonic acid. By using air, as in the lime-bath, charged with a chemical having a remarkable affinity for this acid, may it not be that the pulmonary interchange of gases is advantageously supplemented?

"I have knowledge of four cases of membranous croup treated by lime; of these, two were speedily relieved. In a third, recovery ensued, though the lime-baths were abandoned for the potash treatment, when the child, though very near death, was thought to be a little better. In the fourth case, the disease had existed one week before medical treatment was sought; an indifferent article of lime was inefficiently used for a time; death resulted. In the last two cases, relief was afforded by the baths; and although they were finally abandoned in one case, and imperfectly used and neglected in the other, there was, in both instances, reason to question the curative power of the agent. In none of these cases was the lime used to the exclusion of other remedies. So far as observed, however, improvement was in nowise referable to the medication.

"This mode of treatment is useful in those cases in which the attendant is uncertain of his diagnosis; in which, while he believes he has to do with a case of simple laryngitis, he fears membranous croup. In such instances the lime-bath relieves the distress of the patient, and tends to quiet the anxiety of the practitioner, seeing that he is treating the apprehended disease with no danger of injury to his patient from the *nimia cura medici*."

BROMIDE OF POTASSIUM.

This article, which has come into general use as a nervous sedative and hypnotic, is too little known for its general properties and effects to be consistent with sound and judicious medical practice. The subjoined facts are a translation by Dr. Ott of Dr. Voisin's prize essay on this salt, published recently in the *Archives Générales de Médecine.*

The article contains the following points:

1. The great necessity of administering it in a pure state.

2. The better mode of administering it is to give it in sweetened water at the commencement of the meal. Care should be taken of the teeth, as bromine is eliminated by the buccal mucous membrane.

3. We should watch the action of this medicine, as bromism can supervene in two different manners:—the slow and rapid form. The slow form announces itself by a deathly white color of the skin, especially of that of the face, by hebetude, stupidity, dryness of the mouth, its mucus becoming pasty, by diarrhœa, considerable meagreness, titubation, profound sleep, a sort of coma, by difficulty of speaking and

finding words, by a bronchial catarrh which may become suffocating. Bromism comes on rapidly in those who take little exercise. It may be produced in a few days by daily doses of twenty to thirty grains in patients confined to their beds. Exterior temperature does not seem to exercise the least influence on the genesis of it. Bromism appears in patients who have taken for many months or many years of doses from sixty to one hundred and fifty grains, without any assignable reason that it should occur at that moment rather than at any other.

The brisk, rapid form presents itself in the following way: In patients who have taken for three or four years of this medicine, in doses of ninety to one hundred and fifty grains, titubation, considerable difficulty in the gait, impossibility of expression, drooping of the eyelids, somnolence, pain in the head, diarrhœa, dull look, stupidity, writing is tremblingly or badly traced, the phrases are written in a mode nearly incomprehensible, because they want portions of entire words. The tongue, at the end of some hours, is red, dry, and broad. The patients are very thirsty.

The treatment of bromism is the immediate disuse of the medicine, baths of dry vapor, black coffee, purgatives, diuretics, and a very nourishing liquid alimentation.

4. A good sign to determine if the dose is large enough is the absence of reflex nausea caused by introducing a spoon down to the base of the tongue. Iron and arsenic should be frequently associated with this medicine to prevent the anæmia and cachexia produced by it.

5. Duration of treatment. As relapses in epilepsy occur six years, after apparent cure, this author considers that in this disease the length of treatment should be at least ten years; although admitting that he exposes himself to error in this respect.

6. Accidents which may result from the use of this medicine. Bromism has already been noted. Bromic cachexia. This is characterized by considerable decolorization of the skin, blowing vascular murmurs, languor in the movements and expression, general debility and emaciation. This writer believes that every patient who takes bromide of potassium, in doses exceeding seventy-five grains daily, should be examined by his physician every five days. He considers it a dangerous habit for pharmaceutists to deliver the remedy on a recipe already served. In women who take sixty to ninety grains of the bromide, a dry cough, with difficult inspiration, supervenes, especially in the evening or during repose. The cough resembles that of whooping-cough. This medicine produces also cutaneous eruptions.

7. Elimination. Elimination by the kidneys does not seem to be greater in infants than in adults. The alimentary canal eliminates

little or nothing. The amount excreted by the skin and through the saliva has not been determined. The present facts do not explain the remarkable tolerance of this remedy in infants compared with adults.

8. Therapeutic value. The two most important points in the treatment of epilepsy are the exhibition of it in a proper dose and a continuance of it for long periods. It acts in two different ways, physiologically speaking; one a sedative action on the medulla oblongata and the spinal cord; the other a constrictive action of the muscular fibres of the capillaries, making the tissues anæmic. The first explains its efficacy in those diseases where the cord and medulla are excited, as in epilepsy, chorea, simple and traumatic tetanus, spinal irritability of hysterical and anæmic patients, etc. Its happy results in spermatorrhœa are due to its capillary constriction. By the same way the buccal, pharyngeal, vaginal, and probably stomachal secretions are diminished. He relates ninety-six epileptic cases treated, twenty of which have not exhibited any further morbid phenomena.—*Medical and Surgical Reporter.*

Acetate of Potash and Iron.—In the treatment of the diseases arising from defective nutrition in children this preparation is worthy of more consideration than it at present receives. Strumous diseases in this class of patients are always troublesome to cure. The iodide of potassium has been the main dependence with many practitioners. The acetate will be found a good substitute for it.

Strumous ophthalmia not unfrequently yields to this treatment, and uniting the acetate of iron with it, we obtain as good a formula as can be desired. Especially is this the case when the urine is of high specific gravity, loaded with lithates, the belly large and tumid, the limbs emaciated, the child fretful and peevish, appetite variable, bowels alternately costive and loose, the body anæmic, the sleep disturbed by dreams, and the breath offensive.

Combining the acetates of potash, ammonia and iron, we can accomplish great results at times after we have been perplexed, baffled, and discomfited in our efforts with other means. When the lymphatics are large and knotty, this mode of treatment accomplishes a great deal of good.

At times the acetates have to be carried up to full doses before any sensible good is derived from them. It is of great utility, during the while, to give the child some preparation of the cinchona bark—say the fluid extract—or compound tincture, made of four times the strength of the officinal, so as to avoid so much of the alcohol being taken. This combination of the tonic properties of the cinchona, along with the acetates, will be found very excellent in all those refractory

cases alluded to above. A good formula for making the acetate of iron is: Dissolve the recently precipitated carbonate of iron in strong acetic acid up to saturation. I believe that the acetate of iron is the most desirable ferruginous preparation in many forms of infantile affections; at least, in my hands it has given the best results. We will often be gratified by the steady mending that is established by this simple treatment in a very resistant class of disorders.—*Medical Archives.*

Chlorate of Potash and Glycerine Injections in Chronic Dysentery.—Dr. Theodore Mead advocates the injection, in chronic dysentery, of half a drachm of chlorate of potash rubbed up in half an ounce of glycerine, and mixed with three to four ounces of warm water. This should be thrown into the bowel thrice daily, and should be retained as long as possible. He gives two cases as illustrative of the results of this plan of treatment.

1. A young man, æt. 27, was first attacked with dysentery in 1861, and had never been rid of the disease, or had a natural stool, up to June, 1868, when he came under notice. He was then having twenty to thirty stools in the twenty-four hours; was weak and anæmic; muscles atrophied; skin dry; pulse weak, and his general appearance indicated approaching dissolution. The use of opium and whiskey, which had always been ordered him in large quantities during the whole of his sickness, was at once prohibited; he was given quinine, iron, strong beef-tea, and forty-grain doses of subnitrate of bismuth suspended in mucilage. The injections were at once commenced, and at first gave him intense pain and rejected as soon as thrown up, but a decided effect was produced. In a short time the unpleasant sensations subsided, and in a few days he could hold the injections an hour. In twelve days his stools were reduced to eight or ten in the twenty-four hours, and were almost free from pus and mucus. In three months he was able to resume daily work, and has continued it ever since, with no return of his dysenteric troubles.

2. In the second case the dysentery followed an attack of bilious fever, was very obstinate, resisted all the ordinary remedies, and brought the patient to the verge of the grave. The treatment was substantially the same as in the other case, and recovery was complete in two and a half months.—*New York Medical Journal*, Sept., 1873.

Chloride of Potassium in Epilepsy.—D. Lander uses chloride of potassium instead of bromide of potassium in epilepsy. He mentions the following advantages in the employment of the substance: "It is more active, is but one-sixth of the cost, and has not the secondary effects of the bromide. He begins with small doses, but has been

able to continue the use of the substance for months without any inconvenience, in daily doses of from one drachm to a drachm and a half. According to Dr. Lander, bromide of potassium is transformed into the chloride in the stomach. This is therefore an additional reason for prescribing it at once in this latter form."—*Scalpel, Belgium.*

Phosphorus in Cataract.—*The Scalpel*, of Brussels, contains an article by Dr. Bonvier, of Monsaujon, accompanied by a record of cases, in which he relates his experience of the use of phosphorus in cataract. He says that he has often prescribed it, but has frequently been obliged to abandon its use before any effect had been produced, owing to the patient being unable to bear the introduction of phosphorated oil into the eyes, and the conjunctivitis which resulted. This condition did not, however, always follow, and Dr. Bonvier asserts that when it did not, the use of phosphorated oil in this manner was very efficacious.

Febrifuge and Sedative Properties of Sal-Ammoniac.—An article in *L' Union Médicale* refers to a series of cases communicated in May last to the Société de Thérapeutique by M. Martineau, and which tend to show the value of sal-ammoniac when administered in acute rheumatism. Some cases are said to have been cured, and in others the pulse and temperature decreased after the medicine. In some, trimethylamine had been given in vain. Dr. Lapeyrère, in *La France Médicale*, gives some further notes on the subject. He tells us that Delioux de Savignac found daily doses of half a gramme too feeble, and gave from four to ten grammes. He carried the quantity per diem to fifteen grammes in divided doses for the relief of nervous headache. Dr. Lapeyrère then goes on to observe that Barillen, of Toulon, in an article in the *Bulletin de Thérap.*, has related many cases cured by the administration of three doses of one gramme each, at intervals of half an hour. Some English physicians have used the drug successfully in nervous affections. Delioux de Savignac has used it both externally and internally in gout as well as acute rheumatism, and says it diminishes both pain and fever. It may be dissolved in any of the waters of the Pharmacopœia. Its trial is advised in doses of five, ten, and fifteen grains.—*Med. Press and Circular.*

Muriate of Ammonia in Amenorrhœa and Sterility.—Dr. K. P. Moore, of Knoxville, Ga., reports in the *Atlanta Med. and Surg. Jour.*, several cases in which the empirical use of this remedy has brought on or increased the menstrual flow, and, in others, removed obstacles to conception.

Inhalations of Muriate of Ammonia in Chronic Chest Affections.—Dr. Liebermann describes the results which he has obtained through the employment of an inhaling apparatus containing muriate of ammonia, in chronic chest diseases of the respiratory organs. The good effects of the remedy are owing to its acting as a local irritant, thus producing a revulsive effect. The cases especially benefited were those of "clergyman's sore-throat" in its chronic inflammatory form, chronic bronchitis, and mucous affections of the air-passages.—*The Lancet.*

Croton-Chloral Hydrate.—Benson Baker, writing to the *British Med. Jour.* of Oct. 25, says the remedy is of great service in cases of nerve-pain, and quotes the following instances from his practice:—

A. suffered from facial neuralgia of a most severe character; it affected her hearing and eyesight. She could not rest or take food. She took one grain of croton-chloral hydrate every hour. In three hours she was considerably better. After taking three doses more, she was entirely free from pain.

B. suffered much from facial neuralgia dependent on decayed teeth, and had not been able to take food or sleep for three days. She was ordered croton-chloral hydrate in grain doses every hour, and obtained great relief after two doses. Six doses removed the pain completely. She slept that night.

C. This patient suffered from concussion of the spine caused by a railway accident some years ago. She has had every variety of treatment for the pain she suffers in the spine and the nerves proceeding therefrom. She took potassium bromide gr. 20, and croton-chloral hydrate gr. 1, three times a day, with marked relief and no bad symptoms.

E. This is a young dyspeptic and neuralgic patient, and suffers greatly from dysmenorrhœa. She took two-grain doses when the paroxysms of pain came on, with marked relief.

F. has been under treatment for various neuralgiæ for some years. She has had, at one time or another, almost every external and internal therapeutic agent in the *Pharmacopœia*—strychnia, iron, quinine, chloride of ammonium, aconite, belladonna, iodine, bromine, blisters, hypodermic injections, galvanism, together with baths and other hygienic appliances, including change of air. In this case, two grain-doses of croton-chloral hydrate every hour afforded more speedy relief from pain than any of the above remedies. After taking eight grains, she was almost free from pain.

In thirteen patients who have taken croton-chloral hydrate, not a single bad symptom has been observed. In grain-doses, it relieves

pain quickly; causes natural sleep; no subsequent headache or furred tongue. In several cases, it acted as a gentle laxative.—*Brit. Med. Journal.*

Oliate of Mercury in Tinea Circinata.—Dr. Leonard Cane, in *The Lancet* for Aug. 16, recommends the use of the oliate of mercury (ten per cent. strength) as being of particular service in tinea circinata, several applications being sufficient to destroy all trace of the affection. It produces no staining or injury to the skin, nor is the application attended with pain or other unpleasant effect. The preparation is said to penetrate into the sebaceous glands, hair-follicles, and even into the hairs themselves, the mercury being in a state of solution in an oily medium. The penetrating power of the oliate may be increased by adding a small quantity of ether (one part to eight) to it.

Mercury in the System.—Prof. Hyatt delivered a lecture on mercury in Vienna recently, when he exhibited the leg-bone of a man whose death had undoubtedly been hastened by mercury. On striking the bone heavily upon the table, out fell thousands of little glittering globules of mercury—bright metallic mercury—which rolled about upon the black surface before him, collecting here and there into drops. This mercury had been absorbed during life, undermined the man's system, and proved fatal to him. The mortality among those who work in mines of quicksilver, or in the works where it is reduced, is known to be frightful. In the celebrated mines of Idria, the men work alternately one month in the mines and one month in the smelting-house. But notwithstanding this, it appears that of the hundreds employed there, one-fourth become salivated.—*Am. Chemist.*

Elimination of Mercury.—Drs. Meyençon and Bergeret, in a study of the action of mercury (*Journal de l'Anatomie*), found that when one centigramme of the bichloride was injected hypodermically into a dog, the metal was to be found in the urine during the following twenty-four hours; when a centigramme was administered during ten or twelve days, the urine contained mercury during the whole time and for four and five days afterwards. They failed to find it in the saliva, but did detect it in the spermatic fluid of an embosser. In a ptyalized nursing-woman the milk contained as much as the saliva, and the authors detected the drug in the urine of a baby fed at the breast of a mercurialized female.

In a second series of experiments rabbits were killed at various intervals after the injection of a solution of the bichloride, and their tissues examined. It was found that in half an hour the drug had

permeated everywhere, but was most abundant in the liver and kidneys. In four days the mercury given in a single dose was all eliminated, and could not be found in the tissues. By the continuous use of the metal it certainly accumulates and remains in the system. Thus neither the urine nor the blood of one of the investigators contained any of the metal forty-eight hours after the cessation of a mercurial course. Yet, after taking iodide of potassium, mercury reappeared in the urine, and continued to be present for forty-eight hours.

Injecting Medicated Fluids for Deafness.—Dr. Chisholm reports the case of a gentleman, aged 23, from Texas, who has been so deaf for the past three years in the left ear, that he can hear absolutely nothing with it. Knowing himself to be completely deaf in this ear, and believing his case incurable, he went to Baltimore for treatment, solely to gratify his friends at their earnest solicitation. Upon examining the right ear, it was found perfect. In the left ear the drum cavity was nearly effaced, with the drum membrane firmly adherent to the inner osseous wall or promontory of the cochlea. The Eustachian tube admitted air into this nearly effaced tympanic cavity, as perceived through the otoscope, yet the ticking of a watch could not be heard when pressed against the ear. The object to be attained in this case was to liberate the drum membrane and restore the drum cavity. This was in a measure effected by the following novel treatment: Having secured the Eustachian catheter in the pharyngeal orifice of the Eustachian tube, a small rubber tympanic catheter (Weber's) was introduced through the silver Eustachian tube, until its free end entered the cavity itself. Through this channel the drum cavity was filled with a solution of sulphate of copper of the strength of four grains to one drachm. This was injected for the purpose of exciting inflammatory action, its effects causing the old bonds of adhesion to soften. The injection was repeated each day. After a few days, air was driven with sufficient force through the tympanic catheter to stretch the adhesive bands and allow the depressed membrane to resume somewhat its normal position. The result was an immediate improvement in the hearing. From absolute deafness, in the short space of a week, the patient could hear the watch at six inches from the ear, and could understand conversations as well with this formerly deaf ear as he could with the perfect one. This result was unusually good.—*Baltimore Annual Surgery Reports*, 1873.

The Abortive Treatment of Acute Gonorrhœa.—Dr. Ledegault (Brussels) communicates, in a brochure of ten pages, some new experiments in this field.

1.—To judge of the appropriateness of the abortive treatment in a given case we must have regard not to the duration of the disease, but to the seat of the inflammation.

2.—The use of abortive means is rational if the disease be limited to the fossa navicularis while its advance seems for the moment checked; this is usually the case towards the third day of the disease.

3.—The method is very simple; it consists in lightly touching the fossa navicularis with lunar caustic.

4.—If the third day has passed, the inflammation has *probably* extended beyond the fossa navicularis and the success of the abortive treatment is very doubtful.—*Schmidt's Jahrbücher*, Oct., 1873.

Nitrate of Amyl in Melancholia.—(*Wiener Med. Presse*, October 20, 1872.)—In accordance with the suggestions from English sources and Prof. Meynert, of Vienna, Dr. Hostermann has made a series of experiments with this drug in cases of melancholia. Inhalations are preferable to subcutaneous injections or to the internal administration of the remedy.

In 10 to 15 seconds the pulse becomes more frequent; in 30 to 40 seconds the face becomes red, the conjunctiva injected, and the subjective warmth of the body increases. At the same time the arteries pulsate more vigorously, the head feels constricted, and the patient experiences the feelings of mild intoxication after wine-drinking. With these symptoms the patient is more lively, and shows it both in his features and his manner. The external signs of the drug disappear in three-quarters of a minute after the cessation of the inhalations; but there seems to be a somewhat more permanent change for the better in the psychical condition of the patient.

This treatment is not suited to those cases where the melancholia depends upon some cause of exciting anxiety; it is rather suited to those cases of melancholia due to sluggish circulation and impeded nutrition in the brain.

Hypodermic Injection of Nitrite of Amyl in Cholera.—Dr. David B. Smith records a case of cholera treated by this method in the *Indian Medical Gazette* for May 1, 1873, p. 123. The inhalation of nitrite of amyl in cholera was tried some years ago by Drs. Hayden and Cruise without much success, the pulse being improved but the respiration impeded, and thirst was increased. As Dr. H. C. Wood, of Philadelphia, noticed that the convulsions which indicate hindrance to the respiratory changes were not produced in animals when the nitrite of amyl was injected subcutaneously, although they occurred when its vapor was inhaled, the abstractor suggested the em-

ployment of the drug subcutaneously instead of by inhalation in cases of cholera, hoping in this way to improve the circulation without hindering respiration. This plan of treatment has received a fair and careful trial at the hands of Dr. Smith, and the results are by no means encouraging. The nitrite of amyl had no very marked effect on the pulse. After each injection the brachial pulse was perhaps a little broader than before, but even this effect was insignificant and very transient. Respiration was on the whole slightly accelerated. The temperature rose two degrees during the operation, but at last it sank nearly one degree. The general condition of the patient could not be said to have improved in any way. Altogether two drachms of nitrite of amyl were administered in an hour and thirty-six minutes. The patient died about two hours and a half after the operation. Towards the termination of the injecting process, the patient became slightly more restless than before, but nothing like convulsions occured. He complained of no difficulty of breathing, nor of increased thirst.

Injection of Spirits of Wine into Adipose Tumors.—Dr. Hasse, of Wordhausen, recommends the injection of alcohol into the substance of adipose or lipomatous tumors. He gives one case of a female who had a large fatty tumor reaching from the shoulder to the armpit. He injected alcohol into this at four different sittings, with fifteen days' interval, directing the syringe into different parts of the tumor. In a few days there was some slight inflammation. The tumor became at first firmer, but soon softened and fluctuated at several points. In three weeks an incision was made into the tumor, and the fatty matter could be pressed out in a liquid form. In another case of a man, æt. 40, a similar treatment was adopted with similar result.—*The Medical Press and Circular.*

Gelseminum in Toothache.—J. Wickham Legg, M. D., one of the physicians to St. Bartholomew's Hospital, writes to the *London Lancet*, that he has treated successfully five cases of toothache and pain in the jaw from decayed teeth by the administration of gelseminum.

A New Means of Relieving Toothache.—This remedy consists in the employment of injections introduced into the gum near the diseased tooth. Dr. Dop has tried these injections in about one hundred cases. In twenty cases he made use of morphia, which succeeded very well, but only for a time. Chloroform was far more successful, and is now exclusively used by Dr. Dop. It was eminently successful in sixty-two cases out of eighty. The injection is made with

the small syringe commonly used in France for subcutaneous injections. Only two drops are put in at a time. The needle is introduced gradually, and must remain *in situ* a few seconds. On withdrawing it, pressure must be exerted on the gum with the finger. In by far the greater number of cases, one injection is quite enough to stop the toothache. In some instances a second injection is needed twenty-four hours after the first. During absence of pain, the tooth may be plugged, or dressed with creosote, etc.—*Revue Médicale de Toulouse.*

Cases of Traumatic Malignant Onychia Successfully Treated by Means of Nitrate of Lead.—In the *Ippocratico* Dr. D. Peruzzi has recorded a remarkable instance of the above, in the form of a letter addressed to Professor Vanzetti, who was the first in Italy to advocate the use of nitrate of lead in malignant onychia, and had been eminently successful in fourteen cases of the disease. Dr. Peruzzi's case was a very bad one; so bad, indeed, that amputation of the diseased part seemed the only possible procedure. It occurred in a youth of seventeen, of lymphatic constitution, who fourteen months previously had wounded the great toe of his right foot. The wound gradually extended and suppurated, loosening the nail to the root, and producing hemorrhage, which became more and more frequent and abundant. The pain was most intense; sleep quite impossible; and the patient was finally reduced to a worn-out condition. All previous medicinal applications had failed. On May 14th the loose extremity of the nail was cut off, and nitrate of lead sprinkled freely all over the diseased parts. A bit of rag was simply applied. Strong pain was felt, but speedly abated. A black polished scar was produced, and fell off at the end of six days. The parts healed beautifully. A second slight application of the substance was made with the object of hastening and insuring a cure. Dr. Peruzzi's case is followed by the relation of three other instances of cure recorded by Drs. Verardini and Casati.—*Lancet.*

Effect of Carbolic Acid on the Urine.—Mr. W. A. Patchett reports a number of observations upon a peculiar change of color in the urine, produced by the external application of carbolic acid to a raw surface. A blackish or dark olive-green discoloration occurs in from four to forty-eight hours, and the urine resembles an infusion of tea or digitalis to which a little iron has been added. The discoloration does not appear with any regularity or constancy, and may follow the internal use of carbolic acid, but unless poisonous doses have been given the color is not so deep as that produced by the external application of the acid.—*London Lancet*, August 23, 1873.

Carbolic Acid in Prurigo.—Dr. Rothmund (*London Med. Record*) advises the internal administration of carbolic acid, which he says excels every other method of treatment for prurigo. He also advises the hypodermic injection of carbolic acid, which, he says, causes no irritation in the parts.

Painting the parts, after thoroughly drying them with collodion, made elastic with castor oil, has proven successful in some obstinate cases. When the film comes off it should be reapplied, and all cracks in it repaired at once.

Chionanthus Virginica.—Dr. I. J. M. Goss (*New York Medical Review*, September, 1873) recommends chionanthus as a potent alterative and cholagogue, and has found it of great value in hypertrophy of the spleen and liver, in cases of extreme and persistent jaundice and indigestion. He uses a tincture made from the bark of the root in the proportion of eight ounces to a pint of alcohol.

Nitric Acid in the Treatment of Pertussis.—Dr. Berry, of Lancaster, writing to the *Medical Times and Gazette*, says he does not pretend to introduce any new remedy for this distressing affection, but desires to speak of one which is simple, safe, and, he thinks, apparently valuable in the treatment of uncomplicated whooping-cough. He has found dilute nitric acid, in doses of from five to fifteen minims, according to age, with simple syrup, given every three or four hours, to alleviate the cough and spasm, and apparently cut short the disease. During a recent epidemic he prescribed this frequently, and has every reason to be satisfied with it. Whether the result has been *propter hoc* or not, he is not prepared to answer, but the cures have certainly been *post hoc* in the cases in which he employed it; neither does he offer any suggestion as to the *modus operandi* of the remedy, but he believes its action to be that of a tonic, sedative, and antiseptic. He thinks, however, its refrigerating properties should not be lost sight of.

In all the cases Dr. Berry has treated with dilute nitric acid, he has paid attention to the state of the digestive organs, and, in such cases as have required it, he has given an aperient combined with an alterative. There is one advantage in the use of a remedy like this for children: unlike hydrocyanic acid, it is safe, and no unpleasant results need be dreaded from its administration. At the same time it is inexpensive; a consideration in cases in which a large quantity of medicine is likely to be required.—*Medical and Surgical Reporter.*

Action of Sulphate of Iron on Vegetation.—In the *Druggists' Circular* for November is a paper translated from the *Moniteur Scien-*

tifique. Its author, M. Eusebe Gris, has made a number of experiments on the influence of sulphate of iron on vegetation, and comes to the conclusions (*a*) that the salt is a stimulating manure; (*b*) it presents no danger when intelligently applied; (*c*) its action is evident upon the coloring principle of leaves; (*d*) it is so cheap that a few cents' worth is sufficient to treat hundreds of plants; (*e*) it might be applied to cultivation on a large scale, and, especially, to the cultivation of fruit. The manner of applying the sulphate is as follows: A solution of two drachms to one quart of water is made, and with this the plants, previously placed in the shade, are watered. It is presumed that the earth surrounding the plant is moist; if this is not the case, a more dilute solution must be used. The solution may be applied daily for five or six days; about two and a half ounces are sufficient for each watering of an ordinary sized plant, as a calceolaria. Plants which have become sickly, colorless, and etiolated, will, under this treatment, quickly recover a full green color, give finer flowers, send forth more vigorous shoots, and generally show the good effects of the tonic.

Discoloration of Urine by Senna.—M. Gubler demonstrated to the Société Thérapeutique of Paris, at the Séance of August 13, 1873, the fact that senna will cause a discoloration of the urine precisely similar in appearance to that which occurs in jaundice. On the addition of nitric acid, however, to the urine, the biliary reaction does not occur; moreover, caustic potash changes the color to a magnificent purple. Caustic potash added to the infusion of senna produces only a faint indication of purple, and it is probable that the principle of senna undergoes an oxidation in the system similar to that of turpentine, asparagus, etc.

The Use of Black Cohosh during Pregnancy.—Dr. Ely Van De Warker, of Syracuse, says women are oftentimes the subjects of distressing symptoms as pregnancy advances. Among these are a train of symptoms of a nervous character. Restlessness, sleeplessness, darting pains in the back, flanks and thighs, and stiffness and soreness in movement, are very common and troublesome. For these conditions he finds black cohosh a sovereign remedy. He gives thirty minims, or half a teaspoonful, of the fluid extract at bed-time, in cases of restlessness, and in case of neuralgia of the lumbar or abdominal muscles, or in cases of stiffness or soreness in movement, the extract may be given in the same amount, at intervals of three to five hours during the day.

He knows of no medicine equal to the black cohosh for the conditions mentioned above; having used the plant for these cases during the last ten years, and never seen an abortion produced.

Acorn Coffee in Diarrhœa.—A German physician, Dr. Turk, says that after considerable experience he and many of his colleagues have arrived at the conclusion that, in cases of chronic catarrh of the bowels, drugs seldom produce the desired effect. A series of careful observations, however, have shown him that roasted acorns, prepared as coffee, with a few beans of the real article, form the best dietetic, and, at the same time, medicinal remedy. Often when nitrate of silver, tannin, Dover's powder, etc., have proved useless, the simple acorn coffee (boiled, in cases of specially profuse diarrhœa, with from one to three grains of tannin, and in meteorism or sickness with the addition of a piece of orange-peel to the decoction) has, from the first, lessened the stools and improved their quality, and very shortly restored appetite and nutrition. At the same time the children became not fat but healthy. The acorn coffee is more efficacious than alkalies, preparations of lime, tonics (Peruvian bark and its extract), and carminatives. Moreover, the children drink it readily, without becoming tired, and the painful, formal and frequent administration of medicine is avoided. —*Southern Medical Record.*

Salt in Sickness.—Dr. Scudder, editor of the *Eclectic Medical Journal*, says: "I am satisfied that I have seen patients die from deprivation of common salt during a protracted illness. It is a common impression that the food for the sick should not be seasoned, and whatever *slop* map be given, it is almost innocent of this essential of life. In the milk-diet that I recommend in sickness common salt is used freely, the milk being boiled and given hot. And if the patient cannot take the usual quantity in his food, I have given it in his drink. This matter is so important that it cannot be repeated too often, or dwelt upon too long. The most marked example of this want of common salt I have ever noticed has been in surgical disease, especially in open wounds. Without a supply of salt the tongue would become broad, pallid, puffy, with a tenacious pasty coat, the secretions arrested, the circulation feeble, the effusion at the point of injury serous, with an unpleasant watery pus, which at last becomes a mere sanies or ichor. A few days of a free allowance of salt would change all this, and the patient would get along well."

THE TREATMENT OF NÆVI BY VACCINATION.

M. Marjolin recently advised, at the Society of Surgery of Paris, that the treatment of erectile vascular tumors in children, whatever their seat, should be commenced by vaccination. M. Blot (*Gazette des Hôpitaux*, Oct. 8), calls this in question. He thinks vascular spots

have been confounded with erectile tumors. Vaccination may cure these marks, but is powerless against tumors. M. Tillaux is of opinion that it is capable of curing tumors also; to operate on the surface of the skin is not sufficient in such cases, the tumor must be traversed by threads impregnated with vaccine matter. He cured lately, in this way, at the Lariboisière an erectile tumor of the size of an almond. M. Sée observed that not the summit but the base of the tumor should be vaccinated, and that it should be surrounded with vaccinal punctures. For a tumor of two centimètres, thirty or forty subcutaneous punctures should be made. When a child has many such tumors, all should be treated, or the one neglected will be apt to undergo rapid development. M. Chassaignac has seen the "chaplet of vaccinations" twice fail completely. He fears erysipelas and troublesome hemorrhage, and thinks it better to adopt decisive measures. M. Tanner and M. Guériot spoke of the occasional occurrence in new-born children of vascular points, which disappear if left alone, but which, if treated by cauterization, etc., leave a cicatrix.

Dr. Ed. de Smet (*Presse Médicale Belge*) describes a nævus of some size, projecting on the face immediately below the left eyelid of a girl aged five. He tried first vaccinal inoculation, but ineffectually. He then proceeded thus. He passed through a cork fifteen sewing-needles, allowing the points to project for two millimètres. The needles were so arranged as to correspond, as well as possible, to the shape of the spot and the disposition of the vessels leading to it, which were numerous and highly developed. He dipped the needles and under surface of the cork into croton oil, and then quickly pressed the apparatus on to the nævus, so that the needles pierced its surface. The pain was slight and temporary; the only dressing employed was a little cotton wool. Next day the parts were a little swelled and slightly vesicated: a crust formed, and around its margin little vesicles. Meantime the small vessels were seen to be obliterated, and the nævus much less vascular. Subsequently the surface was again brushed with croton oil; the nævus had disappeared, and M. de Smet states that "there is now no trace of the affection, which, however little serious in itself, does not fail to seriously trouble patients, and to cause a good deal of annoyance sometimes to practitioners."

Writing on the same subject, Dr. P. Bathedat, of Bayonne, in a letter addressed to the editor of *L'Union Médicale*, points out what he supposes to be the cause of frequent failures in this method. The drop of blood that follows the prick of a lancet carries away with it, in the majority of cases, the vaccine lymph, and very few or no pustules are obtained. To remedy this he uses a needle instead of a lancet, and with very good success.

The Use of Ergot.—Dr. T. K. Spendee writes (*British Medical Journal*) as follows: "I have given ergot in some cases of neuralgia, according to the advice of Dr. Woakes, of Luton; but, though I have had particularly good results, I have not been able to remove pain entirely by the use of ergot alone. I can endorse all the favorable views of ergot in the treatment of hæmoptysis, as related by Dr. Dobell and Dr. Anstie. I have used the medicine for this purpose during several years past, having been originally led to do so by a consideration of its therapeutic analogies. It does not yet seem to be clearly defined whether there is any stage of phthisis, even the most advanced, which is absolutely beyond the control of ergot, when spitting of blood occurs. Of the exceeding value of the medicine in these cases (though it now and then unaccountably fails), there can be no doubt whatever; and, as the facts are very little known, attention cannot be too often called to them. The action of ergot on the uterus is a proverb: why should it not affect in a similar way a neighboring organ,—the bladder? I have found that that quasi-paralytic condition of the bladder, which may come on in middle-aged persons from over-fatigue or from simple want of power in the coats of the organ, is greatly relieved by the continuous use of ergot, and may be altogether removed. The so-called hysterical paralysis of the bladder in young women is admirably treated with the same medicine (though I cannot deny the occasional necessity for the use of the catheter). Whether this want of power be simply motor weakness, or secondary to some variety of abdominal neuralgia, there is no more splendid combination of medicines than ergot and strychnia (half a drachm of the fluid extract of ergot and five or six minims of the *liquor strychniæ*, Ph. B., in chloroform-water, three times a day); and these doses should be continued perseveringly for several weeks, as a very rapid benefit cannot be expected."

Fluid Extract of Castanea Vesca in Pertussis.—Dr. Thomas S. Davis gives, in the *Medical Times* (Dec. 28, 1872), the results of the treatment of fifteen cases, with this remedy. The first eleven cases had the characteristic whoop, the remainder had well-marked paroxysms, but not the full spasm, and they recovered without having it. In each case the violence of the spasm was reduced even more markedly than the number of the paroxysms. The castanea was continued for a week, after which, in a few cases, a simple expectorant was given. The nurse in charge, who had witnessed many epidemics of the disease, declared she had never seen medicine act like it.

This medicine is made from the beans of the common chestnut tree, castanea vesca, natural order *Cupuliferæ*. The preparation used was the fluid extract made by Mr. John M. Maisch, of Philadelphia (*see*

Amer. Journ. of Pharmacy, Dec., 1871, p. 529). The dose is half a teaspoonful to a teaspoonful every three or four hours, for a child six years old.

Treatment of Gonorrhœa by Tanno-Glycerine Paste.—Dr. Tomowitz, K. K. Regiments arzt, Austrian army, reports the successful employment of Schuster's (Aix-la-Chapelle) tanno-glycerine paste in somewhat different form for syphilis and gonorrhœa. His formula is as follows: R. Tannini puri, ℥ ss.; Opii pulverisati, gr. iv.; Glycerinæ p. sut. ft. pasta.

Some 50–60 drops of glycerine are requisite to bring the paste to a proper consistency. A sound or elastic bougie is dipped into the paste, warmed over a stove or spirit lamp, and thus smeared is introduced into the orificium penis to the fossa navicularis, where it is held for five minutes. This operation is repeated three times a day. In gleet the catheter or bougie is carried back to the bladder and slowly withdrawn so as to bring the paste into contact with every surface of the urethra. Even in acute cases the pain is but very slight.—*Allg. Militaraztl. Zeit.* August 11, 1872.—*The Clinic.*

Inhalations of Oxygen in the Treatment of Hydrophobia.—Laschkewitsch (*Gaz. Méd. de Paris*, 1872, No. 50) has administered inhalations of oxygen to a peasant, who, ten weeks before, had been bitten by a mad wolf. The tetanic muscular contractions ceased, the cyanosis disappeared, and the exacerbations of violence gave place to a quiet, gentle condition. Notwithstanding the fatal result (due probably to the inattention of the nurses, who discontinued the oxygen inhalations), the author recommends the use of this agent to the attention of the profession.—*Centralblatt.*

Glycerole of Iodine is used for loss of voice. It is composed of a solution of sixteen grains of iodine in one ounce of inodorous glycerine.

Glycerite of Lime, used in Burns, is said by De Breyne to soothe the pain and to prevent inflammation or diminish its intensity; it is prepared from recently slaked lime, one part; glycerine, fifty parts; chlorinated hydrochloric ether, one part.

Deep Injection of Chloroform in Tic-Douloureux.—Prof. Roberts Bartholow, in *The Clinic*, describes his method of introducing chloroform into the subcutaneous cellular tissue, in facial neuralgia. Though considerable pain is produced, yet the pain quickly subsides, no inflammation or abscess ensues, and the neuralgic suffering is instantly relieved. The method is thus described:

The needle is inserted under the upper lip, which is raised, and passed deeply so that its point shall rest near the infra-orbital foramen. The chloroform is then slowly injected. When the needle is withdrawn, firm pressure from the cheek is made over the point of insertion of the needle, and is maintained for a time to insure the diffusion of the chloroform. At the moment of injection some burning pain is experienced, but this is quickly followed by a feeling of numbness of the upper lip and anæsthesia of the parts into which the chloroform is diffused. In a very short time a distinct swelling is perceived at the site of the injection, which is at first puffy, but afterwards becomes harder, and may continue indurated and swollen for a day or two. In a few seconds after the chloroform is inserted decided giddiness is experienced and the gait is staggering. Generally the giddiness passes off in a few minutes, but in one case the patient complained of an intoxicated feeling for two days. Drowsiness has usually occurred; and thus far not decided narcosis in any case, although as much as thirty minims has been administered at a dose.

Tincture of Digitalis with brandy has been recommended prior to the inhalation of chloroform, for the purpose of preventing any bad effects on the tonicity of the heart.

Eucalyptus Globulus for Diseased Grape-Vines.—The Abbé Rolland has communicated to the *Cultivateur de la Région Lyonnaise* an "infallible remedy" against the phylloxera, which, after two years' trial, he recommends "with confidence" to vine-growers. It consists in inoculating the vine with the pure essence of *Eucalyptus globulus*, which has lately attracted so much attention in medical circles. A broad incision is made through the bark at the neck of the vine, into which a few drops of the essence are deposited by means of a small camel-hair brush. The result is, that in about three days the phylloxera entirely disappears, while the vine is not in the least injured by the operation. The incision may be made through any other part of the bark with equal success, but the result is more speedily attained the nearer it is made to the roots.

Alchohol and its Defenders.—Dr. Haeck, of Brussels (*Mouvement Medical*, Nov. 7), defends alcohol very warmly against the attacks made upon it by many physicians of late. According to this gentleman, imperfect alcoholic beverages, such as young wines, young beers, and young brandy, contain the same normal stimuli which are contained in perfect alcoholic drinks—old wines, old beers, and old brandies and liqueurs; and it is only in order to experience the benefi-

cent effects of these normal stimulants that imperfect alcoholic drinks are consumed.

Chronic diseases, noticed in so great a number of habitual consumers of alcoholic drinks, have not originated from the normal stimulant contained in these drinks; these diseases arise from the irritant and depressing action produced progressively by the hurtful elements so characteristic of imperfect beverages; drunkenness is one of these diseases. Hence all wines and beers ought, according to this author, after undergoing the alcoholic fermentation, to be freed from the hurtful elements contained in their early state.

According to Dr. Haeck, this gives the clue to the debate so long continued between the partisans and enemies of alcoholic drinks. The former, or consumers, cannot and will not see in alcoholic drinks any but beneficial effects, without wishing to recognize the injurious ones. The others, or adversaries, will not and cannot see in alcoholic drinks aught but their injurious effects, and do not wish to recognize their good effects.

We speak of imperfect alcoholic beverages, which form the ninety-nine-hundredths of those generally consumed in all countries. Besides, perfect alcoholic drinks would not have been able to engender the physical and moral disorders concerning which the strife rages, says Dr. Haeck.

The editor of *The Doctor* says: "We rather suspect that Dr. Haeck would find that pure alcohol would by no means be so innocent as he supposes, were it as often drunk as impure alcohol now is."

Ozonization of Air in the Sick-Room.—Dr. Lender (*Deutsch Klinik*, No. 19, 1873) proposes an easy means of carrying out the above object. He mentions the use of a powder composed of peroxide of manganese, permanganate of potash, and oxalic acid, which has the property of giving out, in contact with water, an abundant quantity of ozone. For a chamber of middling size he uses about two tablespoonfuls of the powder, over which he pours from one to one and a half tablespoonfuls of water every two hours. In this way the quantity of ozone produced is exactly what is wanted; the presence of a larger quantity in the air would occasion a cough. All kinds of metals, except gold and platinum, must be removed from the room on account of the oxidizing effects of the ozone.

MATERIA MEDICA.

PANCREATIC JUICE AS A THERAPEUTIC AGENT.

The increasing employment of the pancreatic juice in pharmacy renders any process for its preparation valuable, especially when such process is within the reach of practitioners in even the most remote country districts. Dr. Merkel, of Nuremberg, has given the following directions for preparing the pancreatic fluid: The pancreas of a bullock is finely minced and rubbed up with 250 grammes (about 8 ounces) of glycerine. When used as a nutritive enema, one-third of this is thoroughly mixed with from 120 to 150 grammes (a gramme 15.5 grs.) of finely-minced meat, and immediately injected into the rectum. This is said to be readily digested by the intestines. If the mixture is allowed to stand too long before using, the meat swells up and renders the injection difficult.

For feeding by the mouth in the treatment of the wasting diseases, both of children and of adults, we would suggest that a very satisfactory pancreatic fluid can be prepared as follows: The pancreas of either the bullock or pig may be used:—

A pound of fresh pancreas is finely minced, and an equal quantity of glycerine added at about 120° Fahrenheit. The mixture is put in a vessel, when the pancreas can be crushed and intimately mixed with the glycerine, and kept at this temperature in a water-bath for twenty-four hours, being occasionally stirred. The glycerine is then carefully drained off, as completely as possible, and the pancreatic magma is carefully washed with about six or eight ounces of water, so as to extract the remainder of the glycerine. This is also carefully drawn off and filtered, and evaporated to one-half, and then mixed with the glycerine.

This makes a perfect and very agreeable emulsion, with cod-liver oil or any other form of fat. Cod-liver oil mixed with this, in the proportion of one part to ten, gives a fine and palatable emulsion, very easy of digestion.

Cod-liver oil, it is said, may also be successfully emulsified, by adding to it crushed bits of pancreas, and keeping it at a temperature of 140°

Fahrenheit for six hours; thus emulsified, it rapidly passes into the circulation from the stomach.

It is well known that nearly all the cases of wasting disease die from pure inanition and incapacity of appropriation and nutrition. Very many of these cases will recover if we can but present material to the assimilating organs readily prepared for absorption. By this means, new impulses of force are acquired, by the entrances of those materials into the chemico-vital action common to organic bodies.

By mixing one or two teaspoonfuls of this glycerine extract with a half-pint of milk, thickened with a mixture of three parts of wheat-flour and one part of pure malt-flour, we have a pure and perfectly assimilable diet for all such cases, on which they thrive remarkably.

The cod-liver oil emulsified by this pancreatic extract forms the basis of a most successful treatment in all wasting diseases, under which eighty per cent. will recover.—*Medical Archives.*

A NEW ANÆSTHETIC FROM THE CHLORIDE OF CARBON.

The chloride of carbon unites in definite proportions with alcohol to form a new substance, with a fixed boiling-point and very pronounced anæsthetic properties. To prepare this substance, distil together 30.8 parts chloride of carbon and 4.6 parts alcohol, collecting the portion that passes over at 66° C = 149° Fahr. The liquid obtained is colorless, transparent, and mobile; has an agreeable odor, and specific gravity of 1.44. Its boiling-point, 66° C., is lower than that of either of the liquids from which it is made, the chloride of carbon boiling at 77° and alcohol at 78.5° C. It burns with difficulty, the flame having a green border. It does not undergo any change in the air, and volatilizes slowly.

Water decomposes it into alcohol, which dissolves, and chloride of carbon, which settles to the bottom. Sulphuric and hydrochloric acids decompose it with equal facility, the chloride of carbon being deposited. Nitric acid, when gently heated, attacks this substance violently, giving off nitrous fumes and liberating the chloride of carbon. On concentrating the supernatant liquor oxalic acid is formed. The specific gravity of the vapor is about 4.

This substance has an ethereal odor and anæsthetic properties. To test the latter, experiments were made upon a dog of medium size by placing a sponge in a vessel shaped like a horn or coronet, and so arranged that a certain quantity of air could enter; this was tied fast to the dog's mouth, with his nostrils in the horn; 15 grammes employed

at three times were sufficient to render him insensible to pinches and pricks. A comparison of experiments made on the same dog, at intervals of several days, with chloride of carbon and with chloroform in doses of 15 grammes each time, has led to the conclusion that chloride of carbon, and especially chloroform, act with more force than the new substance. What shall be its practical value remains for experience to determine, for the authors have not tried its effect upon human beings.—*Jour. de Pharm. et de Chim.*

GLYCERATE OF SACCHARATE OF LIME AND A NEW LIME LINIMENT.

M. Latour has recently had the opportunity of testing upon a large scale, upon the sufferers from an explosion at Mont Valérien, a lime liniment prepared from glycerate of saccharate of lime, and the medical report upon it being very satisfactory, he has published the formula (*Répertoire de Pharmacie*, N. S., i. 577). Monobasic saccharate of lime is nearly equally soluble in water and in glycerine (in glycerine about 36 per cent.); but its solution in the former is coagulated by heat, whilst its solution in the latter is not. Without having recourse to the dry saccharate of lime, the author prepares a nearly saturated solution of saccharate of lime in glycerine, as follows:—

Slacked Lime	200 grammes.
Powdered Sugar	400 "
Water	2 kilogrammes.
Glycerine	400 grammes.

Mix the sugar and lime thoroughly in a mortar, and add the water in small portions, so as to obtain a clear smooth paste. Leave the mixture in contact for twenty-four hours in a stoppered flask, filter, and add the glycerine. Evaporate until reduced to one litre. It then has a density of about 1.280 at 15° C., and contains 49.42 per cent. of the dry saccharate of lime. This glycerate is not coagulated by boiling until it has been diluted with four times its volume of water. Applied to the skin, it forms a kind of varnish, and produces a feeling of coolness and comfort upon inflamed surfaces. The glycerine should not be added until after filtration.

The new lime liniment is prepared from the dilute solution, as above, before evaporation. The formula is—

Ground-nut Oil	2 parts.
Dilute Glycerate of Lime	1 part.

Mix in a wide-mouthed vessel.

By substituting oil of sweet almonds, a less solid mixture is produced. Camphorated oil may be used when it is desired to cover the odor of extensive suppuration. Dr. Lagarde has used the liniment successfully in burns, and Dr. Muller in erysipelas in the face. M. Latour thinks it would be useful in a great number of other cases where the skin is the seat of more or less inflammatory symptoms, such as erythema, chilblains, variolic eruptions, &c.

THE OLEO-STEARATES, AND PARTICULARLY THE OLEO-STEARATE OF ZINC.

Oleo-stearates (or rather oleo-stearo-margarates) are salts which have as bases oxides of the various metals, and as acids the oleic, stearic, and even margaric; and which are extracted from fatty substances by saponification.

Two processes may be employed for the preparation of these salts: one, which is direct, consists in mingling in presence of a certain quantity of water the different oxides which it is desired to combine, and the acids, or rather the natural fatty substances which are found in combination with glycerine under the names of oleine, stearine, and margarine. In this process the action of heat is often necessary, in order that the combination may be more easily effected.

This method is similar to that by which almond soap (oleate of soda), white soap, and lead plaster (oleo-stearo-margarate of lead) are prepared.

In other cases, and particularly where the oxide which is to enter into combination is very slightly alkaline, or of feeble solubility in water, and where, on the other hand, the oleo-stearate is insoluble in the same vehicle, it is necessary to have recourse to a second process, which permits of obtaining the salt indirectly and by double decomposition.

It is by this process that the oleo-stearates of iron, copper, mercury, etc., and of the various alkaloids, are obtained.

For this purpose a solution of almond soap is added in small portions to a solution of some soluble salt, with the base of which it is desired to obtain an oleo-stearate, until a precipitate is formed. Care must be taken always to employ an excess of the solution of soap, the presence of which excess is recognized by the milky tint of the supernatant fluid, the latter being clearly separated from the precipitated oleo-stearate.

That metallic salt should be chosen which precipitates most easily; thus, for iron or copper the sulphate, for mercury the per-nitrate,

should be used; avoiding in the latter an excess of nitric acid, which possesses the property of decomposing the alkaline soap and setting free the fatty acids.

For the oleo-stearates of the alkaloids as proposed by M. Tripier, the chlorides of morphia, quinia, etc., are used.

The salts, as we have said, offer as pharmaceutical preparations several advantages, which have been pointed out by various writers, particularly such as M. Jeannel.

They allow, by their easy solubility in fatty substances, the preparation of ferruginous oils, and pomades containing active principles (oleo-stearates of morphia, quinia, etc.), where the state of solution in the excipient in which they exist makes them preferable to similar preparations where the active principles are incorporated by simply mixing or are dissolved in water, and are perhaps much less easy of absorption.

Finally, the oleo-stearates lend themselves successfully to various therapeutical applications. To give a single example, we may cite the oleo-stearate of zinc, which, mingled with a convenient quantity of an unctuous excipient, as in the following formula, gives excellent results in the treatment of chronic eczema accompanied by itching:

℞ Oleo-stearate of zinc (dry), 3 parts;
Mutton-suet, 15 parts;
Oil of sweet almonds, 15 parts.

Slowly incorporate the oleo-stearate of zinc with one part of the oil of almonds in a slightly warmed porcelain mortar, and add, little by little, the melted and partially cooled mixture of the remainder of the oil with the suet.—*Medical Times*, from the *Bulletin Générale de Thérapeutique*, Sept. 1873.

ACETATE OF SODA AS A PRESERVATIVE.

Dr. Sacc, whose new process of preserving animal and vegetable substances has attracted considerable attention, has lately published a more detailed account, which may be of interest and importance to our readers. The method consists in the use of powdered acetate of soda, instead of common salt or other article, and is equally applicable to the preservation of both meats and vegetables. For keeping meat fresh, this is placed in a cask with layers of the powdered acetate of soda interposed, in the proportion of one-fourth of the weight of the meat. In summer the action is immediate; in winter it is necessary to place the casks or barrels in a room heated to 58° Fahrenheit. As the salt abstracts the water from the meat, at the end of twenty-four hours the cask is turned upside down, or the meat is overhauled; that which

was above being now placed below. The operation is complete in about forty-eight hours, and the meat may then be packed up with its pickle, or it may be dried in the air. If the casks are not full, they may be filled up by a fresh pickle, made by dissolving one part of acetate of soda in three of water. When the pickle is drawn off from the meat, half the salt forms in crystals and may be used again.

Meat thus treated is prepared for cooking by steeping for at least twelve and not more than twenty-four hours in tepid water (according to the size), to which 150 grains of sal ammoniac have been added. This salt decomposes the acetate of soda that remains in the meat, forming chloride of sodium or common salt and acetate of ammonia, which causes the meat to swell and assume the odor and reaction of fresh meat. Meat thus prepared may be applied to every use to which it is fitted when fresh, while the bones supply in abundance a very palatable soup.

According to Dr. Sacc, animals may be preserved entire, for market purposes, in a pickle of acetate of soda; fish, chickens, ducks, etc., being particularly adapted to this treatment, the only precaution necessary being that of the removal of the intestines. Under the influence of the pickle the meat loses about one-fourth of its weight, and when dried another quarter disappears. Cold-blooded animals may be readily dried in a stove. If the attempt be made to dry salmon and trout in this way, they lose their brilliant red color, and, at the same time, a reddish oil is formed, which quickly drains away, leaving an insipid and fibrous mass.

The process is said to be very well adapted to the preservation of vegetables, which generally lose thereby five-sixths of their weight. When needed for use it is only necessary to soak them twelve hours in water, and then cook them as if entirely fresh. It is necessary to scald the vegetables until they lose their stiffness before applying the acetate of soda. At the end of twenty-four hours their juices are drained or pressed out, and they are then dried in the air. Mushrooms can be readily kept by pouring upon them a pickle made with equal parts of acetate of soda and water, and just moistening them with it. The temperature should be kept at about 86° Fah. for twenty-four hours. They are then to be removed, pressed, and dried, in which process they will lose, like other vegetable substances, about five-sixths of their weight.

CHINESE PHYSIC TEAS.

The subject of adulterated Chinese tea has recently occupied a large share of public attention in England, and in a dietetic article of such

large consumption it is of the highest importance that it should be sold pure. The Chinese make for their own use certain "physic teas," but they have recently taken to compounding more extensively than ever medicinal teas of a very injurious character for the "outer barbarians." At a late meeting of the British Pharmaceutical Association Mr. P. L. Simmons read a paper on the subject of these and other teas, from which we take the following translations from the Chinese chops:

1. Made from the commoner descriptions of black teas, adulterated with herbs, and used as a universal medicine. The cakes are made on the fifth day of the fifth month, or "dragon's feast," at noon, and come from the province of Fokier.

2. A tea said to dissolve a glutinous spittle, to dispel huskiness, to quiet troubled feelings, to clear the mind, to brighten the vision, to engender a wholesome moisture in the mouth, to moisten the lungs: its odor is fragrant, its taste savory. This cake is much used by persons when travelling.

3. Called Surem Kok. It is considered useful in curing a variety of complaints, but fevers and rheumatic attacks are principally mentioned on the cards.

4. A tea from the ridge, or back, called the "Dragon's Cavern," whence the tea is called "Dragon's Back Tea." It is said to be effectual in quieting troubled feelings, assuaging thirst, removing undigested food, dissolving phlegm, and enlivening the spirits.

5. Por-Noh tea, from the department of that name, in the province of Yunnan, and is used to prevent indigestion.

6. Another specimen from the province of Yunnan, said to be unadulterated with herbs, and used for the same purpose as the last named.

7. Sung-Lo tea-cake. Sung-Lo is in the province of Ganhway, near Nankin. The virtues of the tea have been doubled by its being done up into this cake. It is particularly powerful in removing all kinds of inflammatory diseases, as, also, those arising from the impeded circulation of the fluids.

8. Same as No. 6, only smaller.

9. Is a round cake, also from the province of Yunnan, used for assisting digestion. A cup of this tea is found very beneficial in removing repletion.

10. Is called Heong-Pien, and is used as a drink on hot days. It is supposed to cool the blood.

11. Chin-Chew basket tea, called Lok-San. This tea is exported largely to Batavia.

12. Cakes of coarse tea, said to be used after too large an allowance of Sam-shoo, or spirit. One cup is supposed to be sufficient to remove any ill-effects of the previous night's debauch.

Doses and Modes of Administration of Chloral.—The dose varies according to age. Liebreich directs 0 gr. 04 ($\frac{2}{3}$ grain) for newborn infants, and 0 gr. 09 ($1\frac{1}{3}$ grains) for those under one year of age. Bouchut and Giraldés have prescribed 1 gr. (15 grains) at 4 years, and 3 or 4 (45 to 60 grs.) for patients from 5 to 15; for an adult the proportion is not much greater. We should never exceed 5 or 6 grammes ($3\frac{1}{2}$ to $4\frac{1}{2}$ scruples), although 10 grammes ($2\frac{1}{2}$ drachms), have been given with impunity. Richardson advises that account should be taken of the weight of the patient, of his condition, of spareness or obesity, and of his impressibility. I am of opinion that the dose should be specially proportioned to the effect sought for; a moderate dose to induce hypnotism, a larger one to produce anæsthesia or analgesia.

Chloral may be administered as a draught, in capsules, in a clyster, or by subcutaneous injection; the pomade and glycerolate of chloral are almost unused.

The ordinary vehicle for chloral as a draught is simple water, or mucilage of acacia, and we should be careful to add to it some corrective, such as the syr. aurant. cort. or some aromatic water. Limousin has devised capsules of chloral; they are convenient. The clyster of chloral is certainly the best method of administering the drug; the patient is spared its disagreeable effects upon the upper part of the alimentary canal, at the same time that its absorption is favored. The formula is two grammes ($\frac{1}{2}$ drachm) of chloral to 125 or 150 grammes of water (4–5 ounces).

Liebreich, Namias, etc., have tried the plan of subcutaneous injections. I do not perceive the advantage of this; its effects are neither more complete nor more rapid, and one runs the risk of leaving a scar. I know that this has not been the case in man, but in animals it is a frequent result.

I mention merely by way of note Richardson's plan of inhalation; he makes his patients inhale chloral previously dissolved in ether. It is a method suitable only for the laboratory. I prefer Mandl's cigarettes.

As a general rule, we should avoid prescribing chloral when we apprehend any lesion of the gastro-intestinal canal (Liebreich).—*Bailey's Translation of Labbé's Critical Review of Chloral: Richmond and Louisville Journal*, November, 1873.

Tartrate of Magnesia.—The efforts which have been made, since the introduction of citrate of magnesia, to replace the citric acid, in consequence of its relatively high price, have hitherto been unsatisfactory. When ordinary tartaric acid is used in combination with magnesia, the solution, at first clear, quickly becomes turbid, and

deposits the greater part of the salt formed. M. Leger reports (*Répertoire de Pharmacie*, June 25, 1873) that, if metatartaric acid be used, which is obtained by heating tartaric acid to about 170° C. (338° Fahr.), it forms with the magnesia a very soluble tasteless salt, the purgative action of which is more energetic and more certain than that of the citrate. The method adopted by M. Leger in the preparation is to heat over a gentle fire, in a porcelain capsule, or better still, a silver basin, a small quantity of tartaric acid until it melts, carefully stirring it from time to time. Small portions of fresh acid are successively added in such a manner as not to cool the mixture too much, until the vessel is two-thirds full, and the same temperature is continued until the mass becomes completely liquid and assumes a slight amber color. The acid is then completely modified; the vessel is removed from the fire and the contents allowed to cool until the acid can be manipulated without adhering to the fingers, when it is pressed into cakes, quickly cooled, and put into well-stoppered bottles. In preparing the magnesian solution, three-fourths of the water are poured on the mixture of acid and carbonate of magnesia; the reaction is brisk, and the solution is complete in ten minutes. Heat must be avoided, because contact with boiling water causes the modified tartaric acid to repass immediately to the state of ordinary tartaric acid, and the tartrate of magnesia is precipitated. The respective proportions of metatartaric acid and carbonate of magnesia required are two parts of acid to one part of magnesia.

Powdered Gum Arabic.—The well-known fact that finely dusted gum arabic is not so well adapted for oil emulsions as the sanded powder, is explained by Hager as follows:—To obtain a dusted powder it is requisite that the gum should be thoroughly dried at an elevated temperature, so as to lose almost ten per cent. of its natural humidity; after such an exposure the gum has been altered to such an extent that it will now reduce alkaline copper solution at a moderate heat, and does not dissolve rapidly enough in water. Gum, to obtain a sanded powder, should be dried at about 30° C. (86° F.) until the pieces have lost 2, or not over 2.5 per cent. of moisture.—*Polyt. Notizbl.—Jour. Ph.*

Bromide of Zinc.—Dr. L. S. Joynes calls attention to the bromide of zinc as a substance promising to be of value as a therapeutic agent, and asks a trial of it in cases in which bromide of potassium and oxide of zinc would ordinarily be prescribed. He refers to a case recently under treatment in the hospital of the Medical College, in which it was used with apparent benefit. The patient was an adult

female laboring under hysteria, with singular involuntary movements, not identical with those of chorea, but probably akin to them in nature, for which she had been subjected to a varied treatment without success. Dr. Taliaferro, the resident physician, with the approval of Prof. McGuire, who was directing the treatment of the case, determined to make trial of the bromide of zinc, and accordingly gave the patient 15 drops of the *glycerole*, properly diluted, three times a day, which dose was afterwards increased to 20 drops. After a few days' use of the remedy, the patient returned to her home in the country, where she continued to take it, and I learned at second hand from her physician there, that her condition is very much improved. Whether, and to what extent, the dose may have been increased, I am not informed. Of course, we can only determine by repeated and cautious trials what dose can be safely tolerated, and what quantity must be given to insure its favorable therapeutic action. To obviate any possible irritating effect upon the alimentary canal, the medicine ought to be given in a sufficient quantity of water, to which, if desirable, mucilage and aromatics might be added. — *Virginia Clinical Record.*

Hyoscyamine.—Dr. G. Merck has made some interesting observations on the substances commonly known as hyoscyamine, which make the analogy between the alkaloid of henbane and those of hemlock, tobacco, etc., much closer than it has been hitherto.

In most chemical works hyoscyamine is described as being crystalline, but recent observations agree in supporting the opinion that it is amorphous. It is only Thorey who reports that he has obtained it in the form of crystals. Merck obtained it only as a colored, soft, amorphous mass; but he found that when this was submitted to careful distillation in an atmosphere of hydrogen, a colorless distillate was obtained which he considered to be the true base, and in this respect to stand together with conia and nicotine.

Thus prepared, hyoscyamine is described by Merck as a colorless, rather oily liquid, in appearance and smell very like conia.

It is readily soluble in alcohol and ether, tolerably so in water. It is only partially soluble in benzol or chloroform. In contact with air it rapidly becomes brown, thickens, and at the same time gives out an intensely disagreeable smell. In this condition it is no longer completely soluble in ether.

The liquid has a strong alkaline reaction, and it completely neutralizes acids. The salts are very soluble, and only with difficulty obtainable in crystals.—*Neues Jahrbuch für Pharmacie*, October, 1872, p. 203, and *Pharm. Jour. and Trans.*

On the Absence of Morphia in the Petals of Papaver Rheas.—In a paper read before the British Pharmaceutical Association, Professor Attfield described some very exhaustive experiments he had made, which proved that not a trace of morphia could be found in the petals of the red poppy. This was in opposition to the suspicions of Pereira, Garrod, and Bentley. Professor Attfield, however, believed that the alkaloid was to be found in the capsules and other parts of the plant, and he suggested as an interesting subject of inquiry, an examination of *papaver somniferum*, with the view of ascertaining whether or not morphia is contained in the petals of white poppies specially grown for opium.—*Chemist and Druggist.*

Camphorein.—During the cholera epidemic in Vienna, the doctors of the various cholera hospitals used with great success a new remedy called "camphorein." It is prepared simply by the induction of chlorine gas into pure turpentine oil until saturated; it gives a thick heavy oily fluid of brown color, with a strong smell of chlorine. It must be freed from muriatic acid, which may be done by washing with water. The remedy is applied by placing a portion in a flat vessel and holding it to the patient to inhale. This indicates that oil of turpentine is a good absorbent of chlorine gas, and therefore can be employed with advantage in operations and other cases where chlorine is evaporated in large quantities.—*Chemist and Druggist.*

Bitter Wine of Iron.—Taking advantage of the property which the hydrated sequioxide of iron possesses of removing the tannic acid from the different vegetable astringents and tonics, Mr. Chas. L. Mitchell has succeeded in making a preparation which is handsome, efficient, and pleasant to the taste. The formula is as follows:

Grd. cinchona calisaya	192 grs.
" gentian root	128 "
Soluble citrate iron	192 "
Sherry wine	13 fl. ozs.
Brandy	1 "
Alcohol	1 "
Oil of orange	12 minims.
Sugar	2 ozs.
Solution tersulphate of iron	2 f. ozs.
Water of ammonia	q. s.

Dissolve the oil of orange in the alcohol, and mix with the sherry wine and brandy. With this menstruum percolate the ground drugs, recovering 15 f. ozs. tincture by pouring on water. Dilute the iron solution with twice its bulk of water, and add ammonia until in slight

excess. Wash the precipitate until the washings are tasteless, and drain thoroughly. Mix this precipitate with the percolated tincture, and allow it to stand, shaking frequently, until a portion filtered off has a light yellow color and does not blacken with tincture of chloride of iron. Then filter, dissolve the citrate of iron and the sugar, and bring up the measure with a little water to 16 f. ozs.

Each fluid ounce contains 12 grains cinchona calisaya, 8 grains gentian root, and 12 grains of soluble citrate iron.—*Am. Jour. Pharm.*

The Oxalate of Protoxide of Iron.—At a recent meeting of the Académie de Médecine (*Bull. de l'Académie*, Oct. 12), M. Caventou delivered in his report on this substance, which had been laid before the Academy two years since by M. Girard. The reporter stated that the mode of preparation recommended by M. Girard is in no wise different from that usually employed in laboratories. In doses of 10 to 12 centigrammes a day, it gives new strength and cures chloro-anæmia, like other good preparations of iron: but what chiefly distinguishes this new salt of iron is, that it never brings on constipation; on the contrary, when the dose is increased to 30, 40, or 50 centigrammes a day, it is an effectual cure for that complaint (*Bulletin de l'Académie de Médecine*, vol. i., 1872, p. 1,100). The sample forwarded to us is a yellow impalpable tasteless powder, very neatly prepared in a capsuled bottle, with a small spoon holding 10 centigrammes. It is stated that it never blackens the teeth, and that it strongly excites the appetite, and is remarkably active in its operation, while patients never manifest the least repugnance to it. The indications for its use are of course those for iron generally, and range over chlorosis, anæmia, leucorrhœa, amenorrhœa, and the whole list of maladies arising from or complicated with impoverishment of blood. It is also prepared in the form of lozenges for children and young people averse to taking powders.—*London Med. Record.*

Neutral Chloral Hydrate.—*The Chemist and Druggist*, of October, says that notwithstanding the new *Pharmacopœia Germanica* requires chloral hydrate to be neutral, it is impossible to have it other than acid; it having been proven by repeated trials, and practically, that chloral hydrate decrystallized, by whatever process prepared, or by whatever solvents dissolved, and again crystallized, even after adding alkali to the solution, cannot be neutral, but must have an acid reaction. The samples of the drug put into the market by some firms who claim that their products are not only neutral but alkaline, have been demonstrated to be adulterated with carbonate of soda.

Nevada Soda.—A small lake in Churchill County, Nevada, covering an area of seven acres, is a perfect well of carbonate of soda in its almost pure state. Twenty thousand tons a year can be obtained from it. Chemists pronounce it equal to European soda.

Removing Bitter Taste of Medicines.—Sugared substances in concentrated solution much diminish bitter tastes. Thus, while an infusion of gentian is excessively disagreeable, its syrup can be very well taken if it is not diluted with water, which weakens the action of the sugar. But the body that seems to enjoy this property in the highest degree is glycerhizin, or the sweet principle of liquorice. By its aid we can almost immediately dispel the bitter taste of quinine, colocynth, aloes, quassia, etc., merely chewing a morsel of liquorice-root. Aloes may thus be powdered and sifted without inconvenience. The liquorice must be kept in the mouth for a longer time in proportion as the bitterness of the substance to be overcome is intense or its solution more concentrated.—*Rev. Méd.*, and *Med. Times and Gazette.*

The Effect of Sunlight on Flour.—Recent experiments have shown that the inferior quality of certain kinds of wheat and rye flour is frequently due to the action of sunlight, by which, even when in bags or barrels, the gluten suffers a metamorphosis similar to that occasioned by heating in the mill. The tendency thus imparted to it to become lumpy, and to form dough without toughness, is similar to that of flour from moist grain, or of flour when it is too fresh, or made from grain ground too early, or when adulterated with barley meal. Such flour can be improved by keeping for some weeks.

A Desirable Fungus.—If the Acclimatization Society could obtain from Lower Guinea some spawn of the native mushrooms, it would make an agreeable and useful addition to our limited store of edibles. We read in the *Philadelphia Medical Times* that, during a botanical exploration of the region around the river Coanza, in Lower Guinea, Dr. Welwitsch's party found their supply of provisions exhausted. The men accordingly went in search of food, with senses quickened by hunger. They were so fortunate as to discover an enormous mushroom, as large as an umbrella, which made soup enough to satisfy the hunger of twenty men. This specimen was the first of the species seen by Welwitsch, but subsequently he often met with it, and learned that these great mushrooms are brought to market at Pungo Adongo by the natives, and there sold at from one to three pence each, according to size.

Artificial Butter.—At the American Institute Fair, lately held at New York, there was exhibited a sample of artificial butter, together

with other products made by the Oleo-Margarin Manufacturing Co., of New York. It is not generally known that a palatable butter can be made out of other materials than milk, but this appears to be the case. We learn the following particulars from the *Journal of Applied Chemistry*. The process employed is that of M. Mouriez, of France. The principal material enployed is fresh beef-suet, which is first hashed in a machine similar to a small sausage-grinder, with a fine sieve at one end. The fat is forced through the sieve and comes out in the form of a whitish jelly. It is next placed in steam vats and heated for two hours, nearly to the temperature of boiling water, whereby the olein and stearin are separated from the animal matter. The real fat is then placed in bags containing about two pounds each, and pressed between sheets of galvanized iron in an oil press. The yellow oil which oozes from the pores of the cotton consists of olein containing more or less stearin in solution. This oil has neither taste nor smell. The residuum left in the bags is solid stearin, and is used in making candles. The oil is finally mixed with one-fifth its weight of sour milk, and churned for twenty minutes in a cool chamber. The butter thus formed is colored yellow with annatto, salted, and worked like other butter, when it is ready for the table. One hundred pounds of suet will make seventy pounds of butter, twenty pounds of stearin, and ten pounds of scraps.

Substitute for the Hypodermic Syringe.—In the *British Medical Journal*, Dr. J. M. Crombie suggests a new method of hypodermy applicable in those cases where a syringe is not procurable, or in those cases where the circumstances of the patient will not allow of the purchase and continued use of such an instrument. The method consists in coating fine silk thread with the required quantity of morphia; this, when introduced in the manner of a seton, by means of a fine needle, with the eye close to the point, enables us to deposit the morphia beneath the skin, by slowly drawing the thread through the opening. This suppository has to be dipped in water immediately before application, and as it is passed through, which must be done slowly, a drop or two let fall on the end still to be passed, so as to moisten the morphia. The process does not cause more pain than injection by the syringe, even when the point of the latter is in condition, as only one-eighth of an inch of skin is traversed, and, as it simply requires a needle, does not entail expense, either for purchase or repairs; and so may be the means of extending the benefit of subcutaneous morphia among the poor, for whom the syringe is too dear and too delicate an instrument.

Subcutaneous Injections.—Dr. Constantin Paul recommends glycerine as a solvent for subcutaneous injections. He considers it to be far superior to water, alcohol, etc.; it is neutral, can be kept easily, and is, of all liquids, the one which approaches the nearest to the composition of subcutaneous cellular tissue.—*Lancet*, August 2, 1873.

Colorless Tincture of Iodine.—℞. Tincture of iodine, pure glycerine, āā ℥ i.; sulphite of soda, ʒ i. Rub the salt to a powder in a small mortar, and add the glycerine gradually; then pour in the tincture of iodine, and triturate gently until a solution is effected, and the mixture assumes an amber color. It is asserted that the properties of iodine are increased by the addition of the sulphite of soda, and that the glycerine enhances the value and convenience of the preparation for local application.—*Southern Medical Record*, July, 1873.

Ext. Aurantii Cort. Fluid.—Mr. M. Bond contributes to the *American Journal of Pharmacy* a formula for the preparation of a fluid extract of sweet orange-peel, to be used for flavoring purposes. The preparation is permanent and possesses all the aroma of the peel, but it is, of course, necessary to use fresh and good rind. The method recommended is as follows: Mix fourteen fluid ounces of alcohol with two fluid ounces of glycerine, moisten sixteen ounces of peel, in moderately fine powder, with twelve fluid ounces of the mixture in a large wedgewood mortar, or any convenient vessel, and having covered it carefully, let it stand for twelve hours; then pack moderately firm in a suitable percolator, and proceed as directed in the officinal directions for preparing fluid extracts. Finish the percolation with a mixture of two parts of alcohol and one part of water; reserving the first fourteen fluid ounces, add one fluid ounce of glycerine to the remainder, carefully evaporate to two fluid ounces and mix with the reserved portion. One fluid ounce added to fifteen fluid ounces of simple syrup makes a stronger and better "syrupus aurantii corticis" than the officinal. The resulting syrup is entirely destitute of any opaqueness, and its mode of preparation less troublesome than by the present formula, which is somewhat tedious. Four fluid drachms of the fluid extract and a few drops of solution of citric acid, mixed with one pint of syrup, make a syrup unsurpassed in delicacy of flavor, and unfermentable, for use at the mineral-water counter.

Adulteration of Lycopodium.—B. Lillard (*Pharmacist and Chemical Record*) points out an adulteration of lycopodium with dextrin. It was found that a mixture of equal parts, if slightly colored, possesses the general characteristics of the pure article, and would

ordinarily pass unnoticed, except that if exposed in a damp place it is apt to attract moisture, and adhere loosely. Dextrin, even when mixed in small proportions, is very easily detected, by rubbing in a mortar, with a little water, when its peculiar odor is at once developed and recognized. The author has since examined a number of samples from different places, but has been unable to detect any dextrin in any of them.

Simple Cerate.—A modification of this dressing is used which renders it much more agreeable, and much easier of manipulation in cold weather. It consists in the addition of oil of almonds in the proportion of ʒ i. to ℥ i. This make one of those little variations in surgical dressings which may add to the comfort of the patient and the convenience of the surgeon.

Mutton or beef suet can be thoroughly purified by the process of M. Auguste Bermond, of Nice, as follows:

Take twenty-five pounds of perfectly fresh suet; cut into small pieces, and pound it well in a mortar; after it is well crushed, wash it with cold water repeatedly, so long as the washings are not clear. Then melt over a slow fire, and add about one ounce of powdered alum and two ounces of common salt, and let them come to a boil for a few seconds; then strain through a fine cloth into a deep pan, and let it stand for about two hours to allow the impurities to settle; which separate, and put the clean grease into the pan, and add to it one quart rose-water and one and a half ounces of powdered gum benzoin; then heat it gently and remove the scum as long as any arises. Finally, put it into a pan and let it cool, when the purified suet may be taken off the sedimentary water.

Thus purified, it will keep for an indefinite period without change or turning rancid.—*The Druggist.*

Caoutchouc from Common Plants.—The extensive demand for India-rubber, and the comparative scarcity of the supply, has augmented the price until it now stands at nearly one dollar per pound in this market. The crude matter comes from tropical regions, and is derived mostly from certain trees, the nomenclature and localities whereof were represented in a recent article in the *Scientific American.*

A variety of attempts to find substitutes for rubber, or new sources of supply, have been made. In the matter of substitutes, several valuable compositions have been invented, which are used in place of rubber for specific purposes.

Among the new sources of supply are the fruits, seeds, and juices

of various plants, which have been successfully treated by Mr. D. M. Lamb, of Strathroy, Canada. By fermenting the asclepia, or common milkweed plant, followed by pressure and evaporation, he separates a gummy liquid having the characteristics of rubber, and, like it, capable of vulcanization.

From the bamboo-berry grown in the South, from flaxseed and other seeds, he also obtains in this manner a similar gum, from which, it is said, a good article of vulcanized rubber may be made, and also an excellent waterproof varnish. It is alleged that these substances may be produced at a cost not exceeding 20 cents per pound, and that a company with a large capital subscribed is about to introduce the manufacture here.

Albumen Obtained from Milk.—M. Schwalbe has found that by adding one drop of the oil of mustard to twenty grammes of cow's milk, the casein is transformed into albumen. If this discovery is confirmed, it will be of great importance in the art of calico-printing. —*Druggists' Circular.*

Emulsions.—H. G. Rogerson (*Pharm. Journ. and Trans.*) recommends a mucilage of tragacanth as superior in every respect to anything else that has yet been proposed for preparing elegant and permanent emulsions of the fixed and volatile oils. The mucilage must be made only of selected pieces of the best gum, quite white and free from impurities. The gum in small pieces is to be soaked forty-eight hours or more, in soft or distilled water, stirring at intervals to prevent agglomeration. About two and a half drachms is the right proportion. A little glycerine added to the mucilage will preserve it indefinitely. As an example of the way in which emulsions are made from this mucilage, the following formula is given:—

Cod-liver oil	℥ v.
Ess. lemon	♏xxiv.
Ess. bitter almond	♏xxiv.
Alcohol	℥ iss.
Syrup	℥ ss.
Mucilag. tragac., prepared as above	ad ℥ xvi.

Mix the essences with the alcohol, add the other ingredients, and shake together into an emulsion. If it be desired to combine the oil in much larger proportion, it may be effected by substituting brisk stirring in a mortar, during the adding of the oil, for the mere agitation that sufficed in the former case.—*Detroit Review of Med. and Pharmacy.*

New Formula for Vallett's Mass.—In order to obviate the tendency of this mass to become hard by age, J. Donde (*Amer. Jour.*

Phar.) proposes the substitution of sugar and glycerine for honey. The proportions recommended are 500 parts sulphate of iron, 600 carbonate of sodium, 280 white sugar, and 150 glycerine. The usual method of precipitation is followed: the carbonate of iron being pressed as dry as possible. The sugar and glycerine are then added, and the whole is evaporated to a pilular consistence. The preparation is said to be sufficiently permanent.

Quinine Pill-Mass.—M. Berquier, of Provins, in the *Répertoire de Pharmacie*, suggests the following formula for a quinine pill-mass:—

Sulphate of quinine	30 grains.
Powdered gum	5 "
Glycerine	10 "

Mix the gum with the glycerine and then incorporate the quinine, beating it well in a mortar.

This is said to give a mass of good pilular consistence, which retains its softness, and can be easily rolled into pills. It can readily be worked up with other ingredients, and is not bulky. Three grains of this mass are equal to two grains of sulphate of quinine.

Coating Sponge-Tents.—Dr. M. Penhoel writes to the *The Medical Times* that coating sponge-tents with oleum theobromæ very much facilitates their introduction.

Pepsine in Oysters.—It appears from some experiments made by Mr. E. H. Hoskins that raw oysters contain pepsine enough to digest themselves. No wonder that raw oysters agree with most dyspeptics. —*Boston Med. and Surg. Jour.*

The Administration of Resina Copaibæ.—Referring to a previous formula for the exhibition of resin of copaiba (see *London Medical Record*, p. 428), Mr. A. W. Gerrard states that he became dissatisfied with this result, because after a day or two the resin collects and forms a semi-compact mass at the bottom of the bottle. He therefore suggests (*Pharmaceutical Journal*, iv. 63) the following as an improvement. Take of—

Resin of Copaiba	15 grains.
Compound powder of almonds	30 "
Water to	1 ounce.

Rub the resin with the powder until well incorporated, then add the water to form an emulsion. This forms, he says, a cream-colored emulsion, having but a faint odor of copaiba. This may be removed

by the addition of compound tincture of lavender, which at the same time imparts an agreeable pink tint.

Coloration of Chloral Hydrate by Oil of Peppermint.—On bringing the two substances in contact, a reddish color is soon developed, which gradually darkens to cherry-red. The color is readily soluble in ether, alcohol, and chloroform; boiling does not destroy it; sulphuric acid heightens its intensity, and if now chloroform be added a dark violet tint is produced. The oils of lemon, bergamot, juniper, crisped mint, rosemary, cloves, anise, and fennel do not produce any coloration with chloral hydrate.—*Archiv. d. Pharm.*, 1873, July 29, in *Am. Journ. Pharm.*

Syrup of the Bromide of Iron.—Take of bromine, three troy ounces; iron (in the form of wire), 350 grains; distilled water, three fluid ounces; citrate of potash, six troy ounces or q. s.; syrup, a sufficient quantity. Put the iron, with the distilled water, in a flask, and add of the bromine two troy ounces in small portions at a time, allowing the mixture to cool, if necessary, before the addition of each fresh portion. When the odor of bromine has disappeared, warm the mixture gently until it assumes a green color; filter and add the remainder of the bromine. Transfer the resulting solution of ferric bromide to a porcelain mortar, and add gradually, with constant trituration, citrate of potash, until the color of the mixture changes from brown to green; finally, add simple syrup to make up thirty fluid ounces. The syrup thus prepared corresponds nearly in strength with the syrup of the iodide of iron, and may be administered in doses of from twenty to thirty drops. It is elegant in appearance; not disagreeable in taste, and is not incompatible with alkalies or with tannic acid.—*Med. and Surg. Reporter.*

The Best Form for Administering the Phosphates.—The great value of the phosphates as therapeutic agents in certain kinds of diseases has led Coirre to inquire into the best way of employing them, and especially one of the most valuable, the phosphate of lime. In order that this remedy may be readily taken up by the system, he recommends that it be given in doses of ten grains, dissolved in ʒ ss. of water, to which a few drops of hydrochloric acid has been added. This latter represents the free acid of the gastric juice. It aids in the absorption of the phosphate, and is of itself useful, as in small doses it promotes digestion. Its use is indicated in diseases which cause disturbance of the digestive and nervous system, such as chronic purulent discharges, chlorosis, tuberculosis (where calcification of tubercles may be desirable), and similar affections, in the osteomalacia of pregnant

and nursing women, where the phosphate of lime is collected in the blood of the mother for the benefit of the child, but to her own serious detriment.—*Presse Med.*, *Schmidt's Jahrb.*, 4, 1873.

The Administration of Phosphorus.—Mr. Bradley recommends (*British Medical Journal*, Oct. 18, p. 460) the following formula for the exhibition of phosphorus. Dissolve ten grains of phosphorus in two ounces of ether, shaking the bottle from time to time. Of this solution one minim, equal to one-hundredth of a grain, is administered in one ounce of water with half a drachm of glycerine. Mr. Bradley states that the glycerine suspends the phosphorus so perfectly that a transparent tasteless mixture is the result, and that the addition of a little bitter infusion entirely removes any *soupçon* of lucifer matches that may hover about the medicine.

Phosphorus Mixture.—The *Medical Archives* gives the following formula: Dissolve a grain of phosphorus in six drachms of chloroform, add two ounces of glycerine, and shake well. Dose: a teaspoonful in water three times a day.

Phosphorus Pills.—Mr. B. S. Proctor gives the following formula for the preparation of phosphorus pills (*Pharm. Journal* [3] iv. 359):

℞. Phosphorus	gr. vi.
Bisulph. carbonis	gtt. vi.
Pulv. tragacanthæ	gr. xij.
Sapon. mollis	gr. xxiv.
Pulv. glycyrrhizæ,	
Conf. rosæ, āā	ʒ ss.

In pil. xxiv.

Put the phosphorus into a test-tube, with half the carbon bisulphide; whilst it is dissolving weigh the tragacanth, and put it into the mortar. Have the soap, etc., weighed upon paper, ready to be added at the right moment. Then pour the solution of phosphorus on the gum tragacanth, rinse the test-tube with the other half of the carbon bisulphide, add this to the other and rub them together. The carbon bisulphide is almost immediately volatilized, and the phosphorus would take fire if the soap were not quickly combined with it. As soon as these are rubbed to a smooth paste, add the liquorice and conserve, work into a mass, divide into pills, and coat with varnish. [According to this formula each pill will contain one-quarter of a grain of phosphorus.]

Phosphorus Pills.—Dissolve one grain of phosphorus in half a drachm of chloroform; triturate the solution in a mortar with two scruples of powdered liquorice root, until all the chloroform has evapo-

rated; to this add a drachm of powdered soap, and work the whole into a mass with water, and divide into twenty-four pills. These pills will keep, are easily made, and evolve no fumes.

Odorless Syrup of Ipecacuanha.—In an article on the internal administration of glycerine in the *Répertoire de Pharmacie*, M. Guichard recommends that the sugar in many of the Codex syrups should be replaced by glycerine. He gives the following formula for syrup of ipecacuanha:

Alcoholic extract of ipecacuanha.....	10 parts.
Glycerine.....990	"

He also employs the following:

Ipecacuanha powder.....	1 part.
Glycerine.....30	parts.

M. Guichard has found that children readily take this preparation. In the place of ordinary ipecacuanha, with its nauseous, disagreeable odor, he uses ipecacuanha purified with several washings with ether, by which its odor is removed while the emetic properties remain. He has also experimented with bisulphide of carbon, and found it to answer the same purpose. If the ipecacuanha powder be treated by displacement with bisulphide of carbon, afterwards dried in the air, and then in a capsule in a water-bath, all its odor is entirely removed.

"Saccharated Calomel" is the name given by Dr. Robert Batty to the following remedy:

Take of calomel, six grains; of refined cane-sugar, twelve grains; mix in a suitable mortar, and grind *long and diligently* until the two are combined in an impalpable powder. Divide into twelve powders, and direct one for the dose, to be placed upon the tongue of the patient.

The active bilious purging which will generally follow the administration of one of these half-grain doses of calomel is rather startling, the doctor says, to one who for the first time observes it. No explanation is offered by the writer.

A considerable number of cases of habitual constipation have been treated with this powder, in minute doses, representing from one-eighth to one-sixteenth of a grain of the calomel, repeated every night, and continued for some weeks. By this means the evacuations have become healthy and regular, and at times excessive, requiring the suspension occasionally of even those minute doses.

In triturating the calomel and sugar together, it is observed that a *delicate canary-color* is developed, which is partly lost again by keeping, and it is also observed that the activity of the powder is much in-

creased by long trituration, thorough comminution, and intimate blending of the ingredients.

A slight yellow color is produced in the trituration of calomel with milk-sugar, but it quickly disappears.

Garcinia Mangostana, a plant belonging to the Guttiferæ, was presented at the late exhibition at Vienna as one of the products of Madras, Cochin China, and the Philippine Islands. It has been used in medicine as a decoction of the fruit-husks, until M. Gruppe introduced the extract, which is now being used in the Vienna hospitals. Numerous experiments have shown it to be a safe, rapid, and thorough remedy for dysentery and chronic diarrhœa, as well as for catarrhal affections of the bladder and urethra.

Administration of Turpentine in Pills.—In order to avoid some of the inconveniences attending the administration of turpentine, M. Lachambre recommends the following formula (*Journal des Connaissances Médicales*):

Oil of turpentine (well rectified).....	8 grammes.
White wax.....	20 "
Essence of lemon.....	2 drops.
Powdered sugar.....	9 grammes.

Melt the wax in the oil of turpentine, pour it into a mortar, and when cool add the sugar, and work into a mass. Divide into pills of twenty-five centigrammes each, which should be covered with starch powder, and kept in a well-stoppered bottle. Each pill will contain twenty-five centigrammes of the oil. Thus prepared the pills are said not to distress the stomach, to be easily digested, and not to cause disagreeable eructations.—*London Medical Record.*

Pepsine Sauce.—A London firm of manufacturing chemists, viz., Lorimer and Milne, have made a "Pepsine Sauce," which is of an agreeable and piquant flavor, and, if it has the virtues of the substance, as claimed, must become a favorite.

Quinine by the Rectum.—A writer in the *Detroit Review of Med. and Phar.* remarks:—"In our experience, quinine will do its work just as well when mixed with coacoa-butter and pushed in the rectum, as when taken by the mouth. This can be done with less trouble and discomfort than attends the swallowing of a sugar-coated pill. The doctor, patient, and attendants who have once tried this method of giving quinine to children and fastidious people, will be sure to remember and practice it in similar cases. There is no way

equal to this for administering narcotics when the stomach is weak or the patient unwilling to take medicine per mouth."

Vehicle for the Administration of Chloroform.—A French medical journal remarks that the best course is to dissolve the chloroform in glycerine (1 : 3), which is effected with tolerable facility, and gives a very clear solution, pleasant to the taste, and with a strong odor of chloroform. This solution can be mixed in all proportions with water, without the occurrence of any precipitation, though the odor is distinctly perceptible. In forming the mixture, it is well to add the chloroform slowly and to mingle the two thoroughly. It should be left at rest for twenty-four hours; at the expiration of this period a portion of the chloroform will be found to have collected at the bottom of the vase; this should be separated and mixed with an additional part of glycerine, when no further separation will occur. This mixture may be kept for some time without any loss of chloroform by evaporation.—*Boston Journal of Chemistry.*

Liatris Odoratissima.—Under the name of wild vanilla the leaves of *Liatris Odoratissima*, Willd., are sometimes used in North America as a substitute for true vanilla. The plant belongs to the Compositæ, and grows to a height of three to four feet, with an erect annual stem, terminated by a corymb of beautiful purple flowers; the odor of the leaves is very perceptible when bruised, and has been referred to the presence of the principle called coumarin. It is said that many of the flavoring fruit essences, perfumes, etc., are produced in America from the leaves of this plant, and they have also been occasionally employed to give a pleasant fragrance to tobacco and cigars. This application has been largely extended of late, and the leaves are brought to market in small bales. They are mostly selected from the lower part of the plant, and are about six inches long by three broad, The smaller and less perfect leaves are used for fillers of cigars, while the large and sound ones are used for wrappers.

The plant is said to be very abundant in Florida, and it has been suggested that if it were submitted to cultivation and the stock cut back so as to induce the development of large leaves, it might be improved in quality and value. The flavor that these leaves impart to tobacco is approved of by many persons, and it has the advantage of having no deleterious properties. Another use to which the leaves are put, is for the purpose of protecting woollen cloths from the attack of moths. Other species of *Liatris*, such as *L. scarioso*, *L. squarrosa*, and *L. spicata* are considered to have medicinal properties: the former

is employed for making a gargle for sore throats, also in gonorrhœa, and it has a reputation for the cure of snake-bites. The root of *L. squarrosa* is acrid and pungent, and yields a balsamic substance in alcohol. *L. spicata* is called button snake-root, and has some reputation as a stimulant, diuretic, and expectorant. It is used in the form of a tincture or decoction made from the root.—*Pharm. Journ. and Trans.*

The Preparation of Liquor. Bismuthi.—Mr. C. Mehu, writing in the *Annuaire Pharmaceutique*, says: In the formula given by Mr. C. H. Wood for the preparation of Liq. Bismuthi, there are two equivalents of citric acid ordered to one equivalent of bismuth. I have satisfied myself many times that a single equivalent of citric acid is sufficient to obtain a perfectly stable solution of bismuth. In this manner an excess of citrate of ammonia in the liquor is avoided. The method which I adopt is as follows:

I dissolve an ascertained weight of pure bismuth in three times its weight of pure nitric acid, then concentrate the solution and leave it to crystallize. After one or two days the mother liquor which surrounds the crystals is decanted and evaporated in a porcelain capsule at a moderate temperature, so as to completely drive off the excess of acid; in cooling, the liquor forms a crystalline mass. All the crystals being put together, I then pour upon them a concentrated solution of citric acid made with heat. For each equivalent of bismuth I employ an equivalent of crystallized citric acid, being very nearly equal weights of each. The solution of citric acid dissolves completely the crystals of nitrate of bismuth.

In order to obtain citrate of bismuth I divide this solution of nitrate of bismuth in citric acid into two equal parts, and pour into one of them a sufficient quantity of ammonia to dissolve the precipitate that is formed at first, leaving only a slight excess of ammonia, and then add the other portion of the solution. From this mixture there results a very white precipitate of citrate of bismuth, which I wash with warm water as long as it gives any traces of acidity, and then dry in a stove. The washings are acid and contain a large proportion of nitrate of ammonia, with scarcely any traces of bismuth. This can be isolated in a state of sulphide by means of sulphite of sodium.

The citrate of bismuth so prepared dissolves in ammonia; the solution can be diluted at will with water without becoming turbid, and may be preserved for years. I have examined during two years several solutions of bismuth containing 20 to 50 grammes of metallic bismuth per litre without recognizing the least alteration. The solubility of the citrate of bismuth is very rapid and easy; it is only

necessary to wash solid citrate of bismuth with a strong solution of ammonia to obtain a perfect solution too strong for ordinary use.

When the solution of citrate of bismuth in ammonia is evaporated upon plates, there is left a white residue insoluble in water, but completely soluble, although rather slowly, in ordinary solution of ammonia.

The citrate obtained by the evaporation of the ammoniacal solution yields nothing perceptible to alcohol, unless it contain nitrate of ammonia in excess, or some other impurity soluble in that menstruum. The solution of citrate of bismuth in ammonia is not rendered turbid by acetic acid, chloride of sodium, chloride of ammonium, iodide of potassium, ferrocyanide of potassium, or bichromate of potash. It is precipitated by oxalate of ammonia, nitric acid, phosphoric acid, sulphuric acid, and nitrate of urea.—*Pharm. Jour. and Trans.*, Nov. 1873.

An Improved Preparation of Kino.—Mr. George Ellinor read before the British Pharmaceutical Conference the following method, which was reported in the *Pharm. Jour. and Trans.* of October 25, 1872:—

The tincture of kino of the Pharmacopœia is so unstable that it is very little used.

Kino possessing advantages over most of the astringents, having a peculiar action on the mucous membrane of the intestinal canal, it is desirable to have a solution of the drug in a stable form, and miscible with water in any proportion.

In the liquor kino concent., or fortior, I now exhibit, this is fully accomplished.

This liquor kino fortior, diluted with water to form the relative strength of the tincture, will be found most efficacious and reliable.

Liquor kino concent., or fortior, is prepared in the following manner, viz.:—

Kino	℥ i.
Glycerine	ʒ ij.
Water to	℥ iv.

Rub together in a mortar the kino, glycerine, and ℥ i. of the water, until dissolved, then make up to f ℥ iv. by the addition of water.

To the liquor kino fort. one volume by measure mixed with four volumes of water will thus form the liq. kino, corresponding with the strength of the tincture relatively, but really stronger, the whole of the kino being dissolved, and this is entirely soluble in water.

I prefer making the liquor kino in the concentrated form because

from it can be so readily prepared the representative of the Pharmacopœia.

The whole of the kino is dissolved; the sand and other earthy matter is thrown down after standing a week or so.

I believe this preparation to be very efficacious, and adapted to mixture of chalk, and all diarrhœa mixtures, and with a great amount of saving in the expense of rectified spirit, the cost being less than 6d. per Oj. of the preparation as compared with the price of the tincture.

I think it may take place with the glycerates of the Pharmacopœia.

As far as I have been able to determine, it is far preferable to the tincture in its action and stability.

The Separation of the Mixed Alkaloids from Cinchona Barks.—Dr. J. E. de Virij writes to the *Pharmaceutical Journal* his method of separating mixed cinchona alkaloids, which he says was published in a Dutch Journal in 1871:—twenty grammes of powdered and sifted bark, dried at 100° C., are mixed with milk of lime, made of 5 grammes of dry slaked lime and 50 grammes of water. This mixture is slowly dried, and when entirely dry, heated in a flask with 200 cubic centimètres of very strong spirit (the strongest possible) till it boils. After cooling and subsiding, the clear liquid is poured on a filter large enough to contain all the bark, but not larger than is strictly necessary (a filter of 15 centimètres diameter is sufficient). The residue in the flask is now mixed again with 100 cubic centimètres of spirit, this mixture well shaken, and poured on the filter. When all the liquid has passed through the filter, the powder remaining on the filter is washed with 100 cubic centimètres of alcohol, so that in the whole 400 cubic centimètres of alcohol are used for 20 grammes of bark. The united liquors are now slightly acidulated with weak sulphuric acid, whereby a precipitate of sulphate of lime is formed. After this has subsided the greater part of the liquor can be poured off, the rest being filtered through a small filter. The clear liquor is now distilled to obtain the greater part of the spirit used, and the remaining liquid poured into a capsule, to which is added the spirit and the water by which the distilling apparatus is subsequently washed. The capsule is now heated on a water-bath till all the spirit has been expelled, and the remaining liquor, which contains all the alkaloids in the form of acid sulphates, is, after cooling, filtered through a small filter. On the filter remains a mixture of quinovic acid and fatty substances, which must be washed repeatedly with water slightly acidulated by

sulphuric acid till caustic soda no longer produces any turbidity in the passing liquid. The filtrate is now reduced to a small volume by heating on a water-bath, and while *still warm* precipitated by a slight excess of caustic soda. The benefit derived from this kind of precipitation is that the alkaloids precipitated from a warm solution are less voluminous, and can, therefore, more easily be washed. The drawback, however, is that the alkaloids from some barks melt under these circumstances, which drawback can, however, easily be rectified by powdering carefully the alkaloids after the cooling of the liquor, and collecting this powder on a small filter. After washing with the smallest possible quantity of distilled water, sufficient to remove the soda salt but not to dissolve quinine, the filter is laid upon blotting paper, and this so often renewed till the mixed alkaloids can easily be separated from the filter without adhering to it, which can be done before they are entirely dry, but requires some practice. They are then heated in a weighed capsule on the water-bath, till repeated weighings show that the weight remains constant. The observed weight multiplied by five gives the amount of mixed alkaloids in 100 parts of bark.

The amount of quinovic acid can be ascertained in the meantime, if the mixture of quinovic acid and fatty substances be treated with a weak solution of caustic soda, by which a great part of this mixture is dissolved. If to this turbid solution a slight excess of chloride of calcium is added, only the quinovate of lime remains in solution, and can be obtained in the shape of a clear, slightly colored liquid by simple filtration. If this clear liquid be acidulated by hydrochloric acid, the quinovic acid is precipitated in the shape of a voluminous jelly. As the amount of quinovic acid is generally very small, its quantity can rarely be ascertained with accuracy, unless the amount of bark be not under 40 grammes. As I generally make two analyses of 20 grammes of bark, I combine the mixture of quinovic acid, etc., of the two filters for the determination of the quinovic acid. If the two analyses are carefully performed under the *same* circumstances, the results differ only very slightly, as may be seen in my analysis of some Jamaica barks, published on p. 121 of this Journal.

The Hydration of Extracts (Read before the British Pharmaceutical Conference, and published in the *Pharm. Journ. and Trans.*, Oct., 1873).—Mr. Charles Ekin says: "It has occurred to me that Wanklyn's method of limited oxidation by means of an alkaline solution of potassium permanganate might be applied with good results to the assay of such medicinal extracts as are dependent for their activity entirely, or for the most part, on certain alkaloids—all

alkaloids yielding a certain portion of their nitrogen as ammonia. Also that it might be made available for the determination of the relative values of the first year's and second year's plant of hyoscyamus, about which a good deal has been taken for granted but nothing yet really proved. And again in the case of conium, to determine which has the greater activity, a tincture made from the fruit or from the leaves. Of course the difficulty lies in the complete and easy separation of the vegetable proteides of the plant-juices, but I am by no means sure that this is not a difficulty that can be overcome, although I regret I have not yet had time to go sufficiently into the subject so as to be able to lay results of any value before this meeting of the Conference. I have had, however, incidentally to determine the amount of water in various extracts, and have thus so far answered question 66 on the blue paper circulated by the Conference, viz., "Is it possible to assign a definite degree of hydration to medicinal extracts with a view to uniformity of strength?"

I believe it is quite possible to do so, certainly with some if not with all extracts.

I find that extracts of fair average consistence for pill-making, when subjected to the heat of a water-bath, in the cases of belladonna and hyoscyamus lose 20 per cent. of their weight, and in the case of conium 25 per cent.

The plan I adopted was to spread the extracts very thinly on a thin platinum capsule, and dry at a temperature of 212° until it ceased to lose weight. Various experiments with the same extract gave in this way very constant results. At first I operated on quantities of 10 grains at a time, but I found that several hours were then required for complete desiccation, whereas if only one or two grains were used the time required was little more than half an hour.

The consistence of extracts varies so much that it would seem advisable to define in the Pharmacopœia the amount of water each should contain, the amount to be determined as I have recommended. When once a standard has been set up there would be practically little difficulty to manufacturers, for I find after a few trials the eye can determine from the consistence of the extract to less than 1.

Adulteration of Tartaric Acid.—H. Maclagan writes to the *Canadian Pharmaceutical Journal*:—

"In the account of the proceedings of the Am. Pharm. Association, in the November number of the *Journal*, I noticed a reference to the presence of sulphuric acid in commercial tartaric acid. That it is sometimes present, and in considerable quantity, I can fully attest, having once suffered considerable annoyance therefrom. Complaint

was made by a customer of our Seidlitz powders—that there was something wrong with them, as a quantity of white powder remained in the tumbler after drinking. I found, on mixing one, that such was indeed the case—that when the effervescence was about ended, the mixture became cloudy, and in a very short time a considerable white deposit had accumulated in the bottom of the glass. This was collected and examined, and proved to be bitartrate of potassa. Suspecting the tartaric acid, I examined it, and found it to contain sulphuric acid, which sufficiently explained the mystery. The sulphuric acid decomposed the Rochelle salt, producing cream of tartar and sulphate of soda, thus:—

"$2K\,Na\,C_4\,H_4\,O_6+H_2\,SO_4=2K\,H\,C_4\,H_4\,O_6+Na_2\,So_4$. This makes a considerable difference in the character of the medicine. The patient, instead of taking Rochelle salt and neutral tartrate of soda, is swallowing a mixture of cream of tartar and glauber salt, which, in some cases, might not be desirable.

"I did not estimate the percentage of impurity present, but, to judge from the quantity of bitartrate produced, it must have been very considerable."

Impurity of Commercial Guaiacum.—J. B. Barnes (*Phar. Jour. and Trans.*) finds the quantity of pure resin contained in commercial guaiacum to be equal to about fourteen ounces in the pound.

Amount of Extract obtainable from Colocynth.—The same authority named in the preceding paragraph found that simple extract of colocynth, prepared by two macerations of the pulp in cold distilled water, pressing, boiling the liquor, separating the coagulated matter, evaporating to dryness, and exhausting with rectified spirit, yielded the same amount of extract as was obtained from the same quantity of pulp which had been exhausted with proof spirit and evaporated to dryness, until the weight was constant.

Addition of Glycerine to Astringent Infusions.—Mr. Barnes also states that glycerine may be successfully added for rendering astringent infusions bright. One part of glycerine to nine of infusion of roses is said to be sufficient. Mixtures of infusion of roses and sulphate of quinia, in which a precipitate of tannate of quinia is produced, may be rendered transparent by a similar addition, as also gargles composed of tannic acid and infusion of roses.

TOXICOLOGY.

POISONING BY CAMPHOR.

At a meeting of the *Clinical Society of London*, on the 14th of November, Dr. George Johnson reported three cases of poisoning by homœopathic concentrated solutions of camphor, the proportion of the gum to the alcohol being one ounce of the former to one ounce and a quarter of the solvent.

A lady of 20 years, having a cold and a sore throat, took in water twenty-five drops of this concentrated solution, and went to bed. She was found in a short time to be foaming at the mouth, black in the face, and violently convulsed. For several hours she remained unconscious. She vomited fluid tinged with blood and smelling strongly of camphor, and had severe gastric pain. For several days she was partially paralyzed, and six months afterwards was suffering from symptoms of nervous derangement.

A man took the same preparation in doses of three drops every five minutes, for a cold. Following the eighth dose he was seized with intense headache, which confined him to bed for forty-eight hours, and he was afterwards so weak and ill that for two months he could not perform his duties as a clergyman.

A young lady, aged nineteen, took for a diarrhœa a teaspoonful of the same tincture, and was rendered comatose for several days; she suffered also from a variety of nervous symptoms.—*British Medical Journal.*

Dr. Klingelhöffer relates (*Berliner Klinische Wochenschrift*, Sept. 1, 1873) the case of a strong and healthy married woman, who at 11.30 A.M. swallowed about 2 grammes (30 grains) of powdered camphor suspended in water. Immediately after swallowing the dose she was seized with giddiness, for the relief of which she went out of her room, but the giddiness increased and compelled her to return. Thinking that the camphor had made her ill, she drank some coffee, which excited vomiting. The symptoms continued to become worse, the giddiness increased, headache came on, with burning pain in the stomach, eructations, great thirst, and a sense of formication in the extremities.

When seen about six hours after the dose had been taken, the patient was sitting on a sofa supported by cushions; there was total loss of appetite, great thirst, occasional eructations having a strong odor of camphor; the urine had been passed in large quantity, probably in consequence of much water having been drunk. The countenance, naturally red, was pale; the forehead, cheeks, and hands were cold; the breath had the odor of camphor; the pulse, between 90 and 100, was small and irregular. The giddiness and tremor which had affected the whole body had passed away, but there was constant movement of the hands. She could walk, but with difficulty. She was ordered to lie in bed, to have cold wet cloths to the head, hot bottles to the feet, to drink freely of water, to have a laxative enema, and take confection of senna. The following morning, at 9 A.M., she was much better, though she had had but one hour's sleep during the night. She had vomited soon after taking the senna-confection, and there had been a free action of the bowels. There remained a slight camphorous odor in the breath, and she complained of an uneasy feeling at the back of the head. In the course of the day she got up, and from that time she was convalescent.

EDIBLE AND POISONOUS MUSHROOMS.

Some useful advice on the subject of mushrooms, says the *Pall Mall Gazette*, was lately given by Mr. Justice Denman, in the Central Criminal Court, on the occasion of the grand jury throwing out a bill of indictment against a gardener who was charged with murdering a fellow-servant, by giving her poisonous mushrooms to eat. Although there was no reason to suppose that the prisoner had any felonious intention in giving the deceased the mushrooms, yet three persons were dangerously poisoned by them, and one of them actually died; the fungi being so much like mushrooms that even a skilled witness saw nothing in them to distinguish them from those articles of food. Mr. Justice Denman thought it was desirable that these facts should be thoroughly well published and known. It appeared that mushrooms growing under trees were dangerous. That being so, added the Judge, "let everybody beware of eating mushrooms which grow under trees." So many persons have from time to time come to an untimely end through eating poisonous fungi bearing a close resemblance to mushrooms, that perhaps the most prudent course would be for those who are unwilling to risk their lives, to abstain from eating mushrooms altogether. In the meantime, however, as there are many people who infinitely prefer the chance of a painful death to the certain anguish

of denying themselves any luxury on which they set their hearts, it may perhaps be as well to call attention to the following tabulation, by Professor Bentley, of the general characters by which the edible and poisonous species of fungi may, as a rule (but not an unerring one), be distinguished. Edible mushrooms: 1. Grow solitary, in dry, airy places; 2. Are generally white or brownish; 3. Have a compact, brittle flesh; 4. Do not change color, when cut, by the action of the air; 5. Juice watery; 6. Odor agreeable; 7. Taste not bitter, acrid, salt, or astringent. Poisonous mushrooms: 1. Grow in clusters, in woods and dark and damp places; 2. Usually with bright colors; 3. Flesh tough, soft, and watery; 4. Acquire a brown, green, or blue tint when cut and exposed to the air; 5. Juice often milky; 6. Odor commonly powerful and disagreeable; 7. Have an acrid, astringent, acid, salt, or bitter taste. It is best to avoid all fungi which have arrived at their full development or show any signs of change; and by soaking doubtful fungi, cut in slices, for about an hour in vinegar and afterwards washing them in boiling water, they may, it is stated, be rendered harmless.—*British Med. Journal.*

Antidote to Mushroom Poisoning.—Experiments lately made with the active principle of mushroom (muscarine), from agaricus muscarius, show that its effect on the system is the reverse of that of atropine. It causes a great sensibility to light, and increase of the pulse, and seems in its action to promise the best remedy for belladonna poisoning. Its subcutaneous injection was used.—*Phil. Med. and Surg. Reporter.*

CURIOUS CASES OF POISONING BY ARSENIC.

A gentleman consulted M. Dr. Wintrebert (Lille) in the early part of this year for disagreeable sensations of the most intense kind experienced about the anus, which resulted, as he thought, from the action of a purgative. Lotions, injections, regimen were prescribed, but in fifteen days the patient returned. The most painful burning sensations had supervened, so that he lost all rest, and was obliged to arise several times in the night and apply a lotion to obtain even temporary relief.

Examination showed the anus to be encircled by a zone (5–6 cent.) of small ulcerations, of a reddish-brown color, each of several millimetres extent and separated from each other by about the same interval.

The cause of the disease was unknown, but it was ascertained that several members of the family, even the servants, were likewise af-

fected. On investigation, it turned out that the disease commenced with the use of a wiping-paper *colored green by arsenic*, which had been left in the water-closet. From the appearance of the coating on the paper it was supposed to have been covered by the arseniate of copper, and a chemical analysis by M. Mehrin converted the suspicion to a fact.

On cessation of the use of the paper, all the patients recovered. (*Bull. Méd. du Nord*, March, 1873.) "Another mode of poisoning, equally novel and curious, by this same potent agent, is of more recent date. It is the case of an officer in one of our chief administrations. This gentleman is a hunter, and keeps his rooms ornamented with the stuffed relics of the chase, among which are to be found a number of those that carry an elevated tail, as the fox, wolf, polecat, etc. The preservation of these animals is effected by the preparations of arsenic, and chiefly by the better known *savon Bécœur*.

"The extreme debility from which he suffered gradually disappeared under a sojourn of two or three months at a watering-place on the sea. Scarcely had he re-entered his premises, however, when the same old symptoms reappeared and gradually increased in intensity. It occurred to Delpech to have some of the dust upon the furniture chemically examined by M. Méher, *pharmacien en chef* at the Hospital Necker. The result of this examination was a positive demonstration of the presence of the poison."—*La Santé Publique*, Oct. 15.—*Lyon Médicale*, Oct. 26, 1873; and *The Clinic*.

Sugar and Magnesia an Antidote to Arsenic.—The *Mouvement Médical* relates various experiments conducted by Mr. Carl, with the result of showing that sugar, mixed with magnesia, may serve as an antidote in cases of poisoning by arsenious acid, in which cases, too, the internal use of the hydrated magnesia is most valuable.—*Lancet*, August 2, 1872.

A CASE OF POISONING BY ACONITE.—ONE HUNDRED DROPS OF TR. ACONITE RAD. TAKEN IN DIVIDED DOSES IN THE SPACE OF ONE HOUR.—RECOVERY.

Dr. J. L. Cleveland reports the following case in *The Clinic*:—"Mrs. W., a young German woman, three days after delivery of her first child, was under treatment for intermittent fever. To reduce the fever, which was then upon her, tr. aconite rad. had been prescribed, gtt. i. to be taken every fifteen minutes until six doses were taken, after that gtt. i. every hour. Through a mistake, gtts. xx. were given every

fifteen minutes until five doses were taken, when the symptoms manifested were of such an alarming character that I was sent for. I did not see her for one and a half hours after the first dose had been taken, and one-half hour after the last dose.

"When I arrived I found the following symptoms most manifest: Marked dyspnœa, or, more properly speaking, perhaps, a sense of suffocation, with neck extended, gasping for air, and crying out at intervals, 'I will smother.' She tossed wildly about, grasping at the bedclothes or at any one near her, and begged for help. Her eyes were wild and staring, and her countenance indicated great apprehension; her pupils were widely dilated, and she could not see; everything appeared black to her, she said. The radial pulse was imperceptible, the extremities were cold and clammy, the entire body was covered with a clammy perspiration. So profuse was the perspiration, that her chemise was saturated.

"In order to satisfy popular prejudice in case of a fatal result, which seemed to be the probable termination, a stomach-pump was used. Whereupon a quart of mustard and water was thrown into the stomach, but there was no regurgitation as there usually is; the fluid had to be pumped out. This sacrifice to public sentiment was doubtless worse than useless, as it further prostrated the patient; and as it had been one hour after the last dose was taken before the pump was used, and the drug in all probability had been absorbed, brandy and ammonia were immediately given in frequent and full doses, and friction with dry flannel was vigorously applied to the extremities. It may be mentioned here that the first dose was taken at 12 M.; at 3 P.M. the depression was still greater. When spoken to, she appeared to understand, but her mouth and tongue were so dry that she could not answer intelligibly, and it was apparent by her actions that she desired to be left alone. The sense of terror which was so prominent a short time before had begun to pass away, and was succeeded by a listless indifference to her condition. Her condition grew worse until 4 P.M., when the effect of the poison was at its maximum. At this time the prostration was frightful. We thought she must die, and so told her husband and friends. Her body was covered with a cold, clammy perspiration. She had slight spasms, during the continuance of which the eyes were widely stretched; in the intervals, they would drop half closed. A choreic twitching of the muscles of the face occurred at irregular periods. During the slight spasms, which would last only for a few seconds, there was some opisthotonos; there was a stiffening, but not a rigid condition of the limbs; the thumbs were drawn across the palm and the fingers extended; the lips were blue, also the fingernails. Respiration was rapid (60 per minute), gasping and sighing,

and each expiration was emitted with a puff; no radial pulsation. She continued to constantly toss her arms and legs, when not held momentarily rigid by a slight convulsion. So great was her uneasiness, that it was impossible to count the pulsations of the heart; but by placing the ear over the precordium, they could be detected as irregular, intermittent, and very feeble. She complained of no pain, and when asked how she felt, would gasp, 'better.' She knew her husband's voice, but could not see him. At times she had nausea and retching, and would run her finger down her throat so as to produce vomiting; once she succeeded in throwing up a small amount of fluid, apparently bile, brandy, and mucus. By 5 P.M. these alarming symptoms began to subside; but still her condition was critical. For the first time since I had seen her the radial pulse was perceptible; it was irregular, intermittent, and very feeble; respirations 50, still gasping and labored; pupils beginning to contract; able to distinguish the outlines of persons; says she feels much better. From 2 to 5 P.M. she had taken a pint of brandy and 3 i. of ammonia carb., but showed no signs whatever of intoxication.

"After the sixth hour she improved steadily and rapidly; perspiration ceased and her extremities got warm. Up to 12 o'clock she had occasional severe attacks of dyspnœa. There were no unpleasant sequelæ except the prostration, from which she recovered entirely in a few days.

"*Observations.*—I watched with some curiosity the effect of the aconite upon the intermittent fever: at the regular period the fever made its appearance, and did not seem to have been influenced in the least.

"The dyspnœa, which was such a prominent and painful symptom, was undoubtedly cardiac. The prostrated and partially paralyzed heart failed to perform its function; hence the sense of suffocation, though the lungs were abundantly filled with air.

"The sedative action of the aconite upon the circulation was very strikingly illustrated in this case; and all the phenomena presented can be accounted for, either directly or indirectly, by its influence upon the circulatory system.

"No examination was made as regards changes produced in the urine or fæces; nor were the variations in temperature observed, owing to the confusion attending the case."

THE ABUSE OF CHLORAL.

"We regret to say that from various quarters we have received trustworthy reports which leave no doubt that this very valuable medicine

is being grossly abused by the public. Hydrate of chloral has received no more than its just praise from those medical writers who have described it as the best and safest soporific medicine in existence. But no medical authority has ever dreamed of sanctioning its employment except under direct medical order; yet the public are, to a large extent, taking it on their own responsibility. In this busy and distracting age the demand for sound and undisturbed sleep is one of the most urgent calls of jaded nature, and it is not unnatural that people should catch at anything which seems to promise to give repose with certainty and safety. This makes it all the more necessary that the public should be plainly told that chloral is no more to be administered safely by unskilled hands than is opium or strychnia. There are several ways in which its improper use may cause serious mischief. In the first place, a single overdose may cause death by failure of the circulation, and there seem to be very great differences between persons as to the dose which can be taken without any danger of this fatal catastrophe. The other possible evil results of chloral are chronic. Where it is taken without proper reasons repeatedly for a considerable time, it may produce either or both of the following effects: it may seriously affect the intelligence and memory, or it may produce partial paralysis of the limbs. The latter is a fact which we have not yet seen recorded anywhere, but it is becoming known to observant practitioners, and will henceforward have to be reckoned as a possible consequence of the rash use of chloral.

"Besides all these things, chloral is fully as guilty as opium or any other recognized narcotic of the tendency to render those who take it the slaves of habit; and we are not sure that the moral enfeeblement which it thus induces is not even greater than that of opium-eating, unless the latter be carried to great excess. In a word, chloral is a most valuable medicine in the hands of a judicious doctor, but it is also a most dangerous plaything or luxury in the hands of people who merely wish to escape from the sleeplessness of anxiety or of fashionable *ennui*."—*The Lancet.*

Poisoning by Red Precipitate (*Irish Hospital Gazette*, October 15, 1873).—Mr. Russell reports the case of a girl, æt. 15, who by mistake took half an ounce of red precipitate. She was admitted to the hospital a few minutes afterwards, having no urgent symptoms whatever. An emetic of sulphate of zinc was administered, and abundance of milk was ordered as diet. The following day her lips, gums, and mouth were very sore, swollen, and reddened; she had a distinct mercurial fetor from her breath, with headache and pain in the epigastrium. She was ordered thirty minims of Battley's sedative

liquor, an alum gargle for her mouth, and poultices to the epigastrium. She began to improve immediately, her bowels were gently moved by a dose of castor-oil, and she had no further trouble from the effects of the drug, except that in about a week she lost two front teeth, and her mouth remained slightly sore for a few days longer.

Strychnia-Poisoning (*Boston Medical and Surgical Journal*, November 6, 1873).—Dr. G. W. Copeland reports the case of a middle-aged man who took five grains of strychnia with suicidal intent. He was seen an hour and a half later, suffering from frequent convulsions, with great opisthotonos, and unable to swallow or articulate. Twenty grains of sulphate of zinc failed to produce emesis, and inhalations of chloroform were resorted to and continued for eleven hours with excellent effect. The convulsions grew less severe and less frequent, and finally ceased altogether, and the case terminated in recovery.

Salad-Oil an Antidote to Strychnia.—A Queensland farmer has written to his paper the discovery that salad-oil is an antidote for strychnia. In support of this theory, successful experiments on dogs are cited, and the enthusiastic discoverer writes: "So confident am I of the cure by oil, that I think I am only doing my duty by letting it be known that a gill of salad-oil poured down the throat, if not too late in the application, is enough for a dog, and ought to be tried on a man."

Poisoning by Wild Parsnip [Sium Latifolium of Gray], (By C. B. White, M.D., U.S.A.)—On April 24, 1873, I was called after dark to assist E. C., a native of Belgium, aged 49 years, nearly twenty-one years a resident of California, who was suffering from the effects of eating less than one ounce (estimated) of the fresh root of the wild parsnip.

On my arrival, I found that he had received partial relief from vomiting and purging, apparently induced by the root itself, but I found him much excited and very prostrate in strength; pulse 44, skin cold and clammy, pupils somewhat dilated, respiration slow. He complained of great dizziness, lack of mental power, and loss of voluntary motion, headache, sense of fear of death, with a decided burning feeling along the alimentary tract (œsophagus especially), and sense of swelling and flatulence about the bowels. I examined the excreta and became satisfied that most of the root had been ejected, and at once gave him two ounces of whiskey, mixed up with a raw egg. After this had revived him, I administered morphiæ sulphas, gr. one-fourth, and left a compound ipecac powder for later use.

Before I left him he was feeling much better in every way, the skin was warmer, the pulse 50, the respiration and the appearance of the eyes nearly normal.

Potatoes Proscribed.—Several German writers upon races predict that nations, far from improving, will deteriorate both in physical and mental characteristics if potatoes become a principal article of diet. The celebrated Carl Voigt says that "the nourishing potato does not restore the wasted tissues, but makes our proletariats physically and mentally weak." The Holland physiologist, Mulder, gives the same judgment when he declares that the excessive use of potatoes among the poorer classes, and coffee and tea by the higher ranks, is the cause of the indolence of nations. Leidenfrost maintains that the revolutions of the last three centuries have been caused by the changed nourishment; the lowest workmen, in former times, ate more flesh than now, when the cheap potato forms his principal subsistence, but gives him no muscular or nervous strength.

The Shade of the Manchaneel.—In a recent number of *La Tribune Médicale*, M. Karsten makes known the result of his personal experience of the influence of the shade of the manchaneel (*Hippomane Mancenilla*). After having passed some hours under one of these trees, he began to experience a burning sensation over the whole surface of his body. This presently was concentrated on particular points, especially on the face and around the eyes. After some time, the eyelids were swollen to such an extent that they could hardly be opened, and the increased sensitiveness of the eyes was such that he was obliged to shut himself for some days in an absolutely dark room, and even then he still suffered much. The swelling diminished at the end of three days, and the cuticle began to peel off. The phenomena observed are attributed to emanations from the plant. These phenomena are produced in an equal degree by other plants of Central America.

White on the Action of Rhus Venenata and Rhus Toxicodendron upon the Human Skin.—Dr. James C. White (*New York Medical Journal*) says that the eruption produced by rhus has been compared to erysipelas by some authors; while Van Hasselt says it produces a "painful dermatitis either in the form of an urticaria erythema or erysipelas bullosum, which may terminate in an extensive and protracted suppuration." Dr. White believes that the eruption is most allied to eczema. He experimented on himself. On one occasion he picked a large bunch of rhus venenata. He handled it freely

for a considerable time, but not the slightest effect was produced on the skin. He felt, however, some "irritation or acridity" about the eyes and throat. On another occasion he experimented in the same way with the leaves of rhus toxicodendron, but without any effect on the skin. At another time he gathered some leaves and branches of rhus toxicodendron, the juice exuding from the broken wood being rubbed on the hands, and allowed to dry. He experienced some irritation of the air-passages and eye. The skin of the hands remained unaffected till two days afterwards, when a single vesicle appeared on the back of one of his fingers, unaccompanied by itching or irritation. On the third day a larger vesicle appeared on the wrist, and next day two others appeared in the same region. One of the vesicles increased to three times its original size, and was then accompanied by burning and itching; other vesicles, one of large size, continued to appear during the following three weeks. The fresh vesicles for the most part formed clusters round the old ones, and produced much itching and burning. This may be accepted as a description of the mildest rash produced by rhus. Dr. White describes much more severe effects. He was called to see a "young lady who a few days previously had come into contact with poison ivy (*Rhus radicans*). Her whole head was greatly swollen, and her features so distorted that no one could recognize her. On closer inspection, the skin of the face and neck was felt to be deeply œdematous, and was largely covered with vesicles of all sizes, many of which were seated on an erythematous base, others being still in the papular stage of development. There were also numerous large excoriations, from which fluid was freely exuding, softening in places on drying, and forming soft crusts. The ears were much thickened, and were dripping with the escaping serous exudation. The hands were also affected, being thickly covered upon their backs with groups of small vesicles, while upon the palms numerous vesicular exudations were dimly seen beneath the thickened epidermal coverings." The rash produced great burning and itching; there was slight febrile action. A gentleman who handled some of the plant suffered severely from a similar vesicular eruption, which affected chiefly the lateral surfaces of the fingers, and his face and genitals were greatly swollen. The following day the eruption appeared upon the arms, thighs, and abdomen, and continued to spread for several days. The irritation was intense, but there was no febrile disturbance. The mere exhalations of these powerful plants are sometimes sufficient to produce serious effects, and even to cause the loss of the hair and nails. Dr. Bigelow says he has been told of cases in which death appeared to be the consequence of this poison. Dr. White has never seen a true erysipelatous inflammation caused by these plants.

Estimation of Organic Matter in Air.—At the Clinical Society of Berlin, Professor Smee proposed a method for discovering the organic matters contained in the air, by means of distillation with cold. A glass funnel, with the tube stopped, is filled with ice and held suspended in the air. The humidity of the air is condensed upon the outside of the funnel, along whose surface it trickles to drop in a little basin beneath. This liquid is weighed. It contains ammonia usually, which is separated and its quantity determined by well-known methods. The quantity of organic matter in the air is then approximately estimated by that in the liquid. It is possible in this way also to arrive at the odorous principle in flowers.—*Gaz. Méd. de Paris.*

Poisoning by Coffee.—Dr. Curschmann, of Berlin, relates (*Deutsche Klinik*, No. 41) the following case of poisoning by coffee: —He was called, in the afternoon of August 10th last, to a tailor's wife, aged 27. It seems that, believing herself to be in a state of pregnancy, of which she had a great fear, she had two hours before drunk a very strong decoction of coffee, in the hope of inducing abortion. This she had prepared by boiling 250 grammes of fresh roasted and finely ground coffee in about 500 grammes of water. The decoction was then forcibly pressed through a woollen filter, and the whole of it she drank off at once, without any addition being made to it. A quarter of an hour afterwards the symptoms began to appear, the great increase of which caused the reporter to be sent for. He found her sitting on a sofa, with a pale countenance expressive of the deepest mental anguish. She complained of want of air, and a sensation as if her chest were compressed, and clung convulsively to articles of furniture or the persons near her, moving constantly from place to place and trying to get up, but sinking down again quite powerless. The limbs, and especially the hands, were affected by chorea-like movements, so that the patient was unable to hold either a glass or spoon. She recognized those about her, and was aware of the cause of her sufferings, but still her sensorium was evidently not quite clear; and next day she retained only a very obscure recollection of what had occurred. Plain or connected answers were not obtainable from her, and only after much effort and persuasion could her attention be engaged at all, she continuing to incessantly repeat the same phrases in the most dolorous tone. The pupils, somewhat enlarged, acted normally, and there was neither disturbance of vision, headache, nor singing in the ears. The forehead was cold, and the temperature of the other parts of the body did not seem raised, but the excessive restlessness of the patient prevented the application of the thermometer.

Corresponding with the patient's complaint of a feeling of suffocation and excessive breathlessness, the respiration was painful, short, and rapid, counting from 24 to 30. Auscultation indicated no abnormality. The patient complained also of distressing palpitation, and the excessive impulse seemed almost to raise the chest; but although the sounds were loud and penetrating, they were pure. The pulse was 112. An hour after taking the coffee severe diarrhœa commenced, which continued to recur about every half-hour for long afterwards. But more distressing to the patient than this was a frequent desire to pass urine, which came on every quarter of an hour. The urine, having a specific gravity of 1014, was considerably increased in quantity. The patient remained in the same state for several hours, becoming somewhat more quiet later in the evening, under the influence of morphia; yet, upon the whole, a very restless night was passed. In the course of two or three days she entirely recovered, the menstruation reappearing, the absence of which had led her to believe herself pregnant.

Tea-Drunkards.—Dr. Arlidge, one of the Pottery Inspectors of Staffordshire, has put forth a very sensible protest against a very pernicious custom which rarely receives sufficient attention either from the medical profession or the general public. He says that the women of the working classes make tea a principal article of diet, instead of an occasional beverage. They drink it several times a day, and the result is a lamentable amount of sickness. This is no doubt the case, and, as Dr. Arlidge remarks, a portion of the reforming zeal directed against intoxication might be wisely diverted to the repression of this very serious evil of tea-tippling among the lower classes. Tea, in anything beyond moderate quantities, is as distinctly a narcotic poison as is opium or alcohol. It is capable of ruining the digestion, of enfeebling and disordering the heart's action, and of generally deranging the nerves. And it must be remembered that not merely is it a question of narcotic excess, but the enormous amount of hot water which tea-bibbers necessarily drink, is exceedingly prejudicial both to digestion and nutrition. In short, without pretending to place this evil on a par as to general effects with those caused by alcoholic drinks, one may well insist that our teetotal reformers have overlooked, and even to no small extent encouraged, a form of animal indulgence which is as distinctly sensual, extravagant, and pernicious as any beer-drinking or gin-swilling in the world.—*Boston Medical and Surgical Journal.*

Don't Eat too much Slippery-Elm Bark.—A son of Samuel Winslow, aged 15 years, near Brooklyn, Iowa, ate a quantity of

slippery-elm bark. A day or two afterwards he was taken violently ill, and four days from the time of eating the bark, died. On a *post-mortem* examination, his stomach was found full of the bark twisted into balls, the organs being too weak to digest it.

Why are Fish sometimes Poisonous?—This question was recently discussed before the Medical Society of Königsberg, Prussia, by Dr. Schiefferdecker. It is well known that prawn, rock-fish, oysters, etc., are at certain seasons unwholesome articles of food, and even poisonous. This does not arise from decomposition, nor from any observable change, as Dr. S. proves. He concludes that it depends upon a change in the blood, connected with the process of spawning.

PRESCRIPTIONS AND FORMULÆ.

SOAPS.

A USEFUL SOAP.—The following is commended, by those who have tried it, for scrubbing and cleansing painted floors, washing dishes, and other household purposes: Take two pounds of white olive soap and shave it in thin slices; add two ounces of borax and two quarts of cold water; stir all together in a stone or earthen jar, and let it set upon the back of the stove until the mass is dissolved. A very little heat is required, as the liquid need not simmer. When thoroughly mixed and cooled, it becomes of the consistence of a thick jelly, and a piece the size of a cubic inch will make a lather for a gallon of water.—*Boston Journal of Chemistry.*

Scented Soaps, in general.

Cut the best white curd soap (or, for some kinds, palm soap) into thin shavings, and place it in a copper vessel, with sufficient distilled water, and heat it by a water-bath till the whole is uniformly liquefied. Let it cool to 135° F.; then add the coloring matter and perfumes. On the large scale, these additions may be mixed with the liquid soap at the maker's before it is poured into the frames. The quantity of perfume used must depend on the price at which it is to be sold.

Almond Soap.

To one hundredweight of the best hard white soap, melted as above, add 20 ozs. of essential oil of bitter almonds. Soap really made from expressed almond-oil is, we apprehend, rarely met with in commerce.

Windsor Soap.

This is said to be made with lard. In France they use lard with a portion of olive or bleached palm oil. Dr. Pereira states that it is made with one part of olive oil to nine of tallow. But a great part of what is sold is probably only curd (tallow) soap, scented with oil of caraway and bergamot. The brown is probably colored with burnt sugar or umber.

Honey Soap.

White curd soap 1½ lb., brown Windsor soap ½ lb.; cut them into thin shavings, and liquefy as directed above for scented soaps; then add 4 ozs. of honey, and keep it melted till most of the water is evaporated; then remove from the fire, and when cool enough add any essential oil. According to Piesse the *honey-soap* usually sold consists of fine yellow soap perfumed with oil of citronella.

Trasparent Soap.

Cut fine white curd soap into thin shavings, and dry them with a gentle heat till they can be reduced to powder. Put 2 lb. of this powder into a water-bath with 5 or 6 pints of rectified spirit of wine, and heat it gently (taking care that the water does not quite boil) till the

solution is complete; add the perfume, and pour into the frames. When cold, cut it into squares. They must be kept some time in a dry place before they can attain their full degree of transparency. By using a still, most of the spirit may be recovered for future use.

Shaving Powder.

Melt together in a water-bath 1 lb. of white soap with one oz. of powdered spermaceti and ½ oz. of chlorate of potash dissolved in a little water, or rose-water. Pour the liquefied soap into a shallow mould; when solidified shave it fine, and dry as above.

Shaving Paste.

1. Melt together 1 dr. each of spermaceti, white wax, and almond-oil; beat it up with 2 ozs. of the best white soap, and a little lavender or cologne water.

2. Naples soap, beaten up with sufficient powdered soap to form a stiff paste.

3. White soft soap, 4 ozs., powdered castile soap 1 oz., oil of olives or almonds ½ oz.

PERFUMERY.

Huile du phenix, or Baume nerval.

Take of—

Beef marrow, (purified).	4 ounces.
Lard	2 ounces.
Concrete oil of mace	4 ounces.
Oils of cloves, lavender, rosemary, sage, and thyme, each	2 drachms.
Balsam of tolu	4 drachms.
Camphor	1 drachm.
Alcohol, 85 per cent	1 ounce.

Place the alcohol in a glass matrass, and by the heat of a water-bath dissolve therein the balsam tolu; then add the camphor and essential oils. Melt together the marrow, lard, and oil of mace, and as it congeals add the alcoholic solution, and stir until it is cold.

Pomade a la Rose.

Purified beef marrow	1 pound.
Spermaceti	2 ounces.
Oil of sweet almonds	3 ounces.
Oil of rose	30 drops.
Oil of geranium	30 drops.

Melt the marrow, spermaceti, and oil of almonds together over a water-bath; when melted pour into a marble mortar, and triturate until well mixed and a white pomade is obtained; then add the essential oils and mix well. Color red with 3 ounces almond oil heated with a half-drachm of alkanet, and strain.

Pomade au Jasmin.

Purified lard	2 pounds.
Storax	1 ounce.
Benzoin	1 ounce.

Melt over a water-bath and infuse one day. Next day melt again, and pass through a fine sieve, then melt again and add:

Jassamine flowers	24 ounces.

Stir some time and let infuse 24 hours. Again melt, and then strain and press, and add:

Oil of musk	30 drops.
Oil of neroli	2 drachms.

Stir well and put in small jars.

Pomade a la Moella de Bœuf.

Beef marrow (purified).	12 ounces.
Beef suet (purified)	8 ounces.
Olive oil	2 ounces.
White wax	1 ounce.
Juice of a lemon.	

Melt and incorporate well, and perfume to taste.

Pomade Philocome.

Beef marrow (purified).	1 ounce.
Oil of sweet almonds	2 drachms.
Extract of cinchona	½ drachm.
Balsam Peru	20 drops.
Oil bergamot	8 drops.

Melt and incorporate well in a mortar.

Antique Oil.

Olive oil	1	pound.
Oil bergamot	4	drachms.
Tincture ambergris	2½	drachms.
Oil sandalwood	½	drachm.

Mix.

Some Preparations for the Hair.

"We subjoin a number of recipes, all of which act chemically on the skin, and therefore require a certain degree of caution in using them to avoid the unpleasant effects of inflammation.

1. Take of Sulphuret of calcium (recent) Quicklime.....equal parts.

Reduce them separately to fine powder, mix, and keep the mixture in a well-stoppered bottle. Very effective and as safe as any.

2. A strong solution of sulphuret of barium, made into a paste as wanted, with powdered starch, and at once applied. Professor Redwood says this is "the best and safest depilatory."

3. Take of hydrosulphuret of sodium (crystallized)... 8 parts.
Quicklime ..... 10 "
Starch..... 11 "

Mix, etc., as No. 1. Very effective. It is ordered "not to be applied longer than two to four minutes."

4. Take of Quicklime..... 1 part.
Carbonate of soda. 2 parts.
Lard..... 8 "

Rub them together so as to form an ointment.

5. Take of Fresh-slaked lime. 2 parts.
Water..... 3 "

Mix, pass a stream of sulphuretted hydrogen into the "paste" as long as it continues to absorb the gas, and then at once put it into stoppered bottles. It is said to be so powerful that a layer a line in thickness will denude any portion of the scalp or beard in three minutes. Its use, therefore, requires the utmost care.

6. "Oriental Rusma." The true "rusma" is composed of an arsenical iron-pyrites, found in Galatia, mixed with half its weight of quicklime, both being first reduced to fine powder. In this state it is preserved by the ladies of Turkey and of other parts of the East, to make their "psilothrons," or compounds to remove superfluous hair. Before use, it is either boiled or mixed with a strong alkaline lye, as noticed below. A spurious rusma is, however, made and extensively used in the East by the following formulæ:—

Take of Orpiment..... 1 part.
Quicklime..... 9 parts.

Mix and bottle. Or, as a preparation ready for use:—

Quicklime	3	ounces.
Orpiment	½	ounce.
Strong soap-lye	½	pint.

Boil in a clean iron vessel until a feather dipped in it almost instantly loses its flue. Very caustic and certain. The substances sold under the name are prepared by one or the other of the last two formulas.

In use, the above "chemical depilatories," which are in a state of powder, are made into a paste with warm water.

A bone or wooden knife should be used for mixing, and the preparation immediately applied to the part, previously shaved close, a little starch being generally added to those which do not contain it, in order to render the paste more manageable. Sometimes soap-lye is used instead of water, to form the paste.

Another mode of application is to make the paste rather thick, spread it on a piece of strong paper, and apply it like a plaster. In from five to ten or fifteen minutes or sooner, if much smarting occurs, the paste should be washed off with warm water, and a little cold cream or any simple ointment applied to the part. The liquid depilatories are usually thickened with a little starch-powder before application. Both classes require caution in their use. They should be applied only to a small surface at a time, and great care should be taken to pre-

vent them extending to the adjacent parts. They lose their properties unless kept entirely excluded from the air, and no liquid must be added to the dry ones until just before their application, and then no more should be mixed than is required for immediate use. All the depilatories are highly corrosive; and those containing orpiment (tersulphuret of arsenic) are, in addition, highly *poisonous.*"—*Druggists' Circ. and Chem. Gaz.*

Morfit's Hair-Dye.

Infuse black tea, two ounces, in one gallon of boiling water; strain, and add three ounces of glycerin, half an ounce of tincture of cantharides, and one quart of bay-rum. Digest this mixture for a couple of days, and perfume with essence of rose or bergamot.

Wash for Failing Hair.

℞. Tincture cantharides.. ℥ iiss.
Jamaica rum (best)... ℥ ijss.
Glycerine (best)..... ℥ i.
Sesquicarb. of ammon. ʒ i.
Oil of origanum..... gtt. xv.
Oil of rosemary..... gtt. xv.
Distilled water..... ℥ ix.
Misce.

S. Moisten, and rub the scalp two or three times a day.

Erasmus Wilson's Hair-Wash.

Aqua mellis..... ½ oz.
Liq. ammoniæ..... ½ oz.
Spirit. rosmarini.... 1 oz.
Ol. Olive..... 1 oz.
—*Phar. Jour. and Trans.*

Ointment for Freckles.

℞. Flour of mustard..... ℥ iij.
Lemon-juice to make a stiff paste ..... q. s.
Oil of almonds..... ʒ ss.
Mix.

For Chafing in Infants.

Take powdered chalk, two parts; oxide of zinc, one part. Make a fine, well-mixed powder. Dust the abraded places with the powder, after proper cleansing.—*Ex.*

For Chapped Hands.

℞. Oxide of zinc..... gr. xx.
Tannic acid,
Camphor, ää..... gr. xv.
Glycerine..... ʒ iv.
Tincture of benzoin.. ʒ ss.
M.

S. Apply locally.—*Boston Med. and Surg. Jour.*

Formulæ for Pills.

The following formulæ, furnished by Mr. Proctor, in his recent work on *Practical Pharmacy*, are specially selected for approval by his reviewer in the *Chemist and Druggist*:—

Creasote Pills.

℞. Creasote.. gtt. xxiv. Ft. pil. xij. with
P. amygdal. gr. xxx.
Glycerine.. gtt. xij.

Camphor Pills.

℞. Camphor..... ʒ j. Ft. pil. xij. with
Ol. ricini..... gtt. iv.
P. sapon..... gr. ij.

Rub the camphor to a powder with the oil, and work into a mass with the addition of the soap.

Pills of Oil of Male Fern.

℞. Ol. lastreæ filicis maris.. gtt. xvi.
Sapon. venet..... gr. viij.
P. amyli q. s., ut fiat pilul. no. x.
Sumat pil. mane.

Calcined magnesia seems to be the best excipient for balsam of copaiva and Chio turpentine; treacle, for iron compounds; and syrup. aurantii for pil. rhei comp.

Carbolic-Acid Pills.

℞. Acid. carbolic..... gr. iij.
Ft. pil. i. Mitte xlviij.

"144 grains of purest carbolic acid and 24 grains of yellow wax were melted together in a test-tube, poured into a cold

mortar, and rubbed into a rather adhesive powder; soft soap was then added by small degrees till 8 grains had been added, when it was found that the whole could be worked into a mass and divided into pills." (p. 290.)

Chloral Pills.

Chloral hydrat..... gr. lx.
Pulv. tragacanth..... gr. iij.
Soluble cream of tartar gr. xij.
Mix, and divide into twenty pills.

Cure for Cold in the Head.

Referring to the article in last "NEW REMEDIES," on colds and catching cold, I send you a prescription which I have used for over two years, and am yet to see it fail in breaking up entirely a cold in the head in forty-eight hours at the farthest, the usual time being twenty-four hours. It is used as a snuff, is not unpleasant, a slight increased heat and tingling sensation being experienced after using it.

℞. Pulv. hydrastin,
" cubebs, ää.....grs 64
" Asarabacca.....grs. viij.
M.
A pinch three times a day.

Respectfully, &c.
J. H. J.

Abortive treatment of Boils.

The following, applied to boils with a camel-hair pencil or feather, gives great relief in a very short time. The inflamed surface, and a little beyond all around, should be painted with the medicine every fifteen minutes, or as fast as it dries, till a good thick coating covers the part. The throbbing, tensive pain and the intense tenderness will be promptly relieved; the redness will subside; the smooth, shining integument will shrink and become wrinkled, and comfort will succeed torment. If the boil is in the first stage, it will disappear without slough. If slough has already formed, it will be quickly separated, and the cure soon complete:

℞. Tinct. arnicæ..... ʒ i.
Acidi tannici..... ʒ ss.
Acaciæ pulv..... ʒ ss.
M.

It should be used as soon as prepared. —*C. B. Hall*, in *Cincinnati Lancet and Observer*.

Cystitis.

The following combination has been found very successful in acute cystitis:

℞. Ext. buchu fluidum,
" uva ursi " ää ʒ i.
Sp. æth. nit..... ʒ ss.
Tr. gelsemini..... ʒ i.
Pot. bromidi..... ʒ ij.
Aqua cinnamoni ad.. ʒ viij.
M.
Sig. A tablespoonful every four hours.

Cure for Corns.

A mixture of equal parts of glycerine and carbolic acid, applied with a camel's-hair pencil, is an excellent remedy for these painful companions.—*Journal of Applied Chemistry.*

Wright's Cure for Headache following Alcohol Debauch.

Take of solution of acetate of ammonia, tincture of bitter orange-peel, syrup of bitter orange-peel, each twenty parts; water, five hundred parts. To be given in repeated teaspoonful doses.

Lard as an Unguent.

"It is well known that rubbing the body with hog's fat has the effect of reducing the temperature of the skin in scarlet fever. A gentleman of our acquaintance has used the fat portion of smoked ham with beneficial results, and writes to the editor to disseminate the fact for others' benefit. A celebrated German physician recommends to incorporate one or two grammes of carbolic acid into one hundred grammes of lard, and with this to rub the whole body, excepting the head, two or three times a day, according to the intensity of inflammation characterizing the case in hand. The effect of this kind of treatment is to produce a

pleasant feeling of coolness, to keep the skin softer, and after each application the temperature of the skin falls somewhat. The carbolic acid operates to destroy the germs and spores of the disease."—*Ex.*

Tincture of Litmus in Sodium Light.

L. D'Henry has observed that the yellow-colored light produced by a Bunsen burner with table salt, causes red tincture of litmus to appear colorless, while the blue litmus tincture has a black and ink-like appearance. This difference in the color is so marked that he considers it by far easier for the chemist to effect exact neutralizations at night or in a dark chamber, than by daylight. Even dark-colored syrups may thus be neutralized without diluting them, the point of saturation being very readily observed, notwithstanding the coloration of the liquid.—*Am. Jour. Pharm.*

Fluid Adhesive Plaster.

The following formula for emplastrum adhæsivum fluidum, given by Mr. Enz, of Sembach, offers some interesting features:—Take of dammar resin, finely powdered, 560 parts; oil of almonds, 142 parts; castor-oil, 70 parts; best glycerine, 10 parts; melt till the mass flows smoothly, and, when half cold, add by degrees 225 to 540 parts spirit of ether, in which aniline, free from arsenic or any other coloring matter, has been dissolved. The plaster thus obtained is of the consistence of a balsam. The dammar resin is easily soluble in fat oils; by the addition of the spirit of ether it is partly precipitated, but in a very finely divided, doughy state. Dammaryl and hydrate of dammaryl are not soluble in alcohol, and impart to the mixture an extraordinary sticking power. This plaster can be directly applied to wounds, and then dressed with cotton or linen, or spread thereon by means of a brush. What renders this plaster especially useful is its easy miscibility with other ingredients; for example, acidum carbolicum purum, hydrarg. chlorid. corrosiv., morphia and its salts, iodide of potassium, which are all soluble in alcohol; further, with powdered cantharides, belladonna, hemlock, etc.—*Medical and Surgical Reporter.*

Court Plaster.

A writer in the *Journal of Pharmacy* gives the following details. The difficulty in making a court plaster in most cases is generally that of cracking and breaking, which the addition of glycerine prevents. The following formula produces a superior quality of court plaster, that will not crack or break:

℞. Russia isinglass.....	℥ i.
Water.....	Oi.
Alcohol.....	f ℥ i.
Glycerine.....	℥ ss.

Soak the isinglass in the water for one day, then dissolve it by the aid of a gentle heat, after which strain it and add the alcohol and glycerine. The mixture, being now ready for use, is spread on a fine quality of silk stretched on a frame, each successive coat being allowed to dry before applying the next. Heat should not be used in drying the plaster, as it is apt to drive the glycerine out and leave the plaster streaked.

By another formula, court plaster is made in the following manner:

℞. Russia isinglass.....	℥ iss.
Resin.....	ʒ xiv.
Alcohol,	
Water, ää.....	q. s.
Glycerine.....	f ʒ ss.

Beat the resin in a mortar until perfectly powdered, then dissolve it in alcohol q. s., and mix with the isinglass solution; strain and add the glycerine.

Court plaster made in this way is very adhesive, but not as handsome as when made by the previous formula.

In another formula, gelatine is used instead of isinglass, and makes a very handsome plaster.

℞. Gelatine.....	℥ iss.
Water.....	Oi.
Glycerine.....	f ʒ i.

Soak the gelatine in the water for one day, then dissolve it by the aid of a gentle heat, and after it is dissolved add the glycerine.

This mixture, if spread on coarse and heavy silk, makes a white and opaque plaster; while if spread on thin and finer silk, the plaster will be nearly transparent and of a yellowish tint.

Sweet Tincture of Rhubarb.

℞. Rhubarb, bruised, liquorice, bruised, each ℥ ij.; aniseed, bruised, sugar, each ℥ i.; dilute alcohol, Oij. Macerate fourteen days, express and filter.

Cod-Liver Oil Mixture.

A preparation that has met with much favor, under the above name, has been made by the writer from a formula given him by Mr. Hassard, of Philadelphia, as follows: ℞. Fresh eggs, No. iv.; lemon-juice, q. s. Place the eggs in a suitable vessel, and pour over them sufficient lemon-juice to cover them, and let the whole remain for 24 or 48 hours. Then pass the whole through a strainer, and add, with agitation, the following, and in the order given: To the lemon-juice and eggs add an equal volume of honey, cod-liver oil, and brandy or whiskey. The whole forms a permanent emulsion, and will keep good during the summer months for a month, and longer in cooler weather. The taste of the oil can be completely covered by the addition of a few drops of oil of wintergreen, or oil of bitter almonds. This mixture is pleasant to take, and a valuable therapeutic agent.

E. S. W.

P. S.—Glycerine may be substituted for the honey.—*American Journal of Pharmacy.*

Mode of Administering Creasote.

As creasote is now frequently employ- in the treatment of typhoid fever, and is exceedingly distasteful to some patients, it may be worth while to mention here a formula which in a great measure covers its flavor, and is easily prepared: Creasote, 3 drops; essence of lemon, 2 drops; orange-flower water, 1 ounce; spring-water, 3 ounces. A spoonful to be taken at frequent intervals throughout the day. —*Canada Medical Journal.—Virginia Clinical Record.*

Administration of Castor-Oil.

The writer alluded to in the preceding paragraph also suggests an original method for making a castor-oil mixture which is said to be quite palatable. We give the form for what it is worth: In the bottom of a tumbler pour about six drachms of syrup of sarsaparilla, add a small quantity (about 10 grains) of bicarbonate of soda, stir with a spatula, add about a teaspoonful of a saturated solution of tartaric acid (always kept ready), stir well; this makes a heavy viscid froth. Then pour down the side of the tumbler, so as to sink to the bottom and not mix with the froth, about an ounce of water; then add the oil. The whole is to be drank without agitation.—*Druggists' Circular.*

Formula for a New Elixir.

A correspondent of the *Druggists' Circular* is inclined to be facetious in the matter of elixirs, more especially those of the beef, iron, and strychnine type. He would add a new preparation, to be known as *elixir of benzine, assafœtida, and smart-weed.*

It is made thus:

℞. Smart-weed, benzine and assafœtida, in fine powder, of each.....A handful.
Sweetened water,
Sour cider, of each.....2 cupfuls.
Mix, and season to suit the taste.

The writer also adds that he has also a valuable formula for an elixir of wahoo, watermelon and sorghum, with phosphate of pumpkin-seeds, which he would part with for a consideration.

GENERAL RECEIPTS.

A Strong Adhesive Paste.

According to Fr. Sieburger, an excellent paste may be prepared as follows: Four parts, by weight, of glue are soaked for several hours in fifteen parts of water, and then slowly warmed until a perfectly clear solution is formed. This solution is then diluted with sixty-five parts boiling water and thoroughly stirred. In the meantime thirty parts of starch are stirred into two hundred parts of cold water, so as to form a thin, milky liquid, free from lumps. Into this is poured the solution of glue, stirring continually and heating. When cold, ten drops of carbolic acid are added. The paste made in this way is said to possess extraordinary adhesive power, joining leather, paper, pasteboard, etc. By keeping it in closed vessels, so that the water cannot evaporate, it may be preserved for years. Where no great strength is desired, ordinary flour or starch paste is used, a little carbolic acid being added to prevent souring.—*Journal of Applied Chemistry.*

Perpetual Paste.

Dissolve a teaspoonful of alum in a quart of water. When cold, stir in as much flour as will give it the consistency of thick cream, being particular to beat up all the lumps; stir in as much powdered resin as will lie on a dime, and throw in half a dozen cloves to give it a pleasant odor. Have on the fire a teacup of boiling water; pour the flour mixture into it, stirring well at the time. In a few minutes it will be of the consistency of mush. Pour it into an earthen or china vessel; let it cool; lay a cover on, and put it in a cool place. When needed for use, take out a portion and soften it with warm water. Paste thus made will last twelve months. It is better than gum, as it does not gloss the paper, and can be written on.—*Boston Journal of Chemistry.*

A Paste from Rice-Flour.

Dissolve one hundred and twenty grains of rice-flour and twenty grains of gelatin in two ounces of water, heating and stirring continually until it becomes thick and glassy.—*Journal of Applied Chemistry.*

To keep Gum Arabic from Moulding.

Solutions of gum arabic soon mould and sour, and finally lose their adhesive property. It is said that sulphate of quinine will prevent this, while it imparts no bad odor of its own. The addition of a solution of a few crystals of this salt to gum arabic will prevent the formation of mould quite as effectually as carbolic acid, and by analogy it is safe to suppose that the same salt could be used in writing-ink, mucilage, and possibly glue.—*Druggists' Circular.*

Useful Addition to Mucilage.

The use of gum arabic as a paste, or cement, is attended with certain well-known disadvantages. It renders unsized paper transparent, does not adhere well to wood, or common pasteboard, or to metallic surfaces, glass, or earthenware. It is said by the *Journal of Applied Chemistry* that the addition of a solution of two parts of sulphate of aluminium to 250 parts of mucilage entirely obviates these

disadvantages, and also prevents fermentation, acidity, and mould.

Indestructible Putty.

Boil four pounds of brown umber in seven pounds of linseed oil for two hours; stir in two ounces of wax; take from the fire and mix in five and a half pounds of chalk and eleven pounds of white lead, and incorporate thoroughly. The latter operation is quite essential.—*Druggists' Circular.*

Paper Wick for Spirit Lamps.

It is stated that a piece of filtering or blotting paper, tightly rolled together, makes a good wick for spirit lamps requiring a wick. By rolling the paper around a cylinder, a wick suitable for burners of that form might be produced.

Colored Show-Bottles.

"A correspondent sends us a formula for putting four colors into a show-bottle. He says:

"I think I have found a practical way of making four colors in one bottle without *Creasote* and *Mercury*,—for the first, I took *Water*—second, a heavy fixed *Oil*, such as *Lard* or *Olive Oil*—third, *Turpentine*—fourth, *Alcohol*. By only taking three colors and coloring the water blue, leaving the turpentine white, and coloring the alcohol red, makes a nice combination, *Red, White, and Blue.*"

Incombustible Paper and Ink.

An English inventor has secured letters-patent for an incombustible paper and fire-proof ink. Though the paper is not regarded as absolutely indestructible by fire of any degree of fierceness, it is yet claimed that under such circumstances as fires in houses, factories, and other buildings, it is "ordinarily incombustible." The pulp, which is manufactured in the usual way, is composed of vegetable fibre, one part; asbestos, two parts; borax, one-tenth part; and alum, two-tenths parts. These ingredients, having been previously ground and finely divided, are brought to the consistency of pulp by the addition of water in proper proportion. Not only can writing-paper be thus manufactured, but a coarser substance for the binding of books or the enclosing of manuscripts. The fire-proof ink can be used either in writing or printing, and is made according to the following receipt:—Graphite, finely ground, twenty-two drachms; copal, or other resinous gum, twelve grains; sulphate of iron, two drachms; tincture of nut-galls, two drachms; and sulphate of indigo, eight drachms. These substances are thoroughly mixed and boiled in water, and the ink thus obtained is said to be both fire-proof and insoluble in water. When any other color but black is desired, the graphite is replaced by an earthy mineral pigment of the desired color.

Indelible Ink.

The *Chemist and Druggist* gives the following recipe, which is said to afford a marking ink which flows freely from the pen, without running or blotting, becoming perfectly black on the application of a very moderate heat, and not injuring the finest fabric:—

Argenti nitras, one ounce.
Soda carb. cryst., one and a-half ounces.
Acid, tartaric, two drachms, two scruples.
Liq. ammon. fort, two fluid ounces or q.s.
Archil, half an ounce.
Sacchar. alb., half an ounce.
Pulv. acacia, one and a-quarter ounces.
Aqua destil., a sufficient quantity.

Dissolve the nitrate of silver and carbonate of soda separately in distilled water; mix the solutions; collect and wash the precipitate on a filter; introduce the precipitate, still moist, into a Wedgwood mortar, and add to it the tartaric acid, rubbing them together until effervescence has ceased; add liquor ammoniæ in sufficient quantity to dissolve the tartrate of silver; then mix in the archil, white sugar, and powdered gum arabic, and add as much distilled water, if required, as will make six fluid ounces of the mixture.

Red Ink.

Prof. R. Boettger recommends a red ink which is not affected by powerful chemical agents. The ink is prepared as follows: Carmine is triturated, in a porcelain mortar, with a little solution of soluble glass; afterwards more of this solution is added, until the desired shade and fluidity has been attained. The ink when used dries rapidly, with a gloss, and when not in use should be protected from contact with the atmosphere by closing the vial with an oiled cork.—*Chem. Centralbl.*, 1873, *No.* 30, *in Am. Journal Pharm.*

Black Branding-Ink.

Triturate together one part of pine-soot and two parts of Prussian blue with a little glycerine; then add three parts of gum arabic and sufficient glycerine to form a suitable paste.—*Boston Journal of Chemistry.*

Restoration of Oil Paintings.

It appears that the brilliancy of the colors in oil paintings is due to the optical properties of the substance contained in the oil, known as linoline. By exposure to the air this substance, at first liquid, absorbs oxygen, becomes solid and transparent, firmly enclosing the particles of color. Linseed oil contains 80 per cent. of this linoline. By lapse of time and physical and chemical changes, the linoline loses in some degree its transparency and the picture fades, those colors containing the least oil changing most.

Pettenkofer has discovered that the vapor of alcohol will renew the qualities of the linoline, and he restores old oil paintings by placing them over a tight box, in the bottom of which is a flannel cloth, which has been dampened with alcohol of 80 per cent. strength. The arrangement should be such that every part of the picture will be exposed to the alcoholic vapor.—*The Druggists' Circular and Chemical Gazette.*

Preparation of Floor Wax.

Two ounces of pearlash, 10 ounces of wax, and about half a pint of water are heated to boiling in a dish, which is frequently agitated, until a thick fluid mass is formed, from which, upon removal from the fire, no watery liquid separates out. Boiling-water is now cautiously added to the mass, until no watery drops are distinguishable. The dish is again set on the fire, but its contents are not allowed to boil, otherwise myricin would separate out, 8 or 9 pints of water being added, little by little, with constant stirring. Coloring matter may be added if desired.—*Nessler.*

Zinc Signs.

The Manufacturer and Builder gives the following recipe for lettering zinc labels:—Two parts acetate of copper (verdigris), 2 parts chloride of ammonium (sal-ammoniac), 1 part lamp-black, 20 parts water; mix well in a glass-stoppered bottle, and shake before using. For fine lettering, you may apply it by means of a blunt-pointed steel pen.

Polish for Patent Leather.

The following is given by the London *Chemist and Druggist*:—

Whites of two eggs.
One tablespoonful of spirits of wine.
Two large lumps of sugar.
Finely-powdered ivory-black.

As much as may be sufficient to produce the necessary blackness and consistence. To be laid on with a soft sponge lightly, and afterwards gently rubbed with a soft cloth.

Parisian Wood Varnish.

To prepare this varnish, which has been long celebrated, the author dissolves 1 part of good shellac in 3 or 4 parts of alcohol, of 92 per cent. (by volume) on the water-bath, and cautiously adds distilled water, until a curdy mass separates out, which is collected and pressed between linen; the liquid is filtered through

paper, all the alcohol removed by distillation from the water-bath, and the resin removed and dried at 100° until it ceases to lose weight; it is then dissolved in double its weight of alcohol, of at least 96 or 98 per cent., and the solution perfumed with lavender oil.—*R. Grager.*

Asphalte Paper.

Asphalte paper is likely to become of great use in many ways. In thin sheets it is useful for wrapping silks or other fabrics that need protection from moisture, for lining cases, or packing-boxes for pianos, etc., or rolled up into pipes for conveying water. Asphalte tubes are only one-fifth the weight of iron, will not rust, and are quite tough and strong. The tubes are simply sheets of paper of a peculiar quality, dipped in melted asphalte, and then rolled upon a cylinder. A machine for preparing the asphalte wrapping-paper consists of a hollow cylinder, heated by steam, and a wedge-shaped box, containing the hot asphalte. The box has a narrow slit, the width of the paper, and as the paper passes, a thin layer of asphalte is distributed on the paper just before it passes the cylinder.—*Journal of the Society of Arts.*

Hop Beer.

Take of Malt.....14 quarts.
Hops..... 1½ pounds.
Crushed sugar.....16 pounds.
Caramel..... ½ pint.
Potato-yeast..... 1 quart.

Scald the malt in boiling water and let it stand twelve hours; repeat the process, drawing the wort each time. Make an infusion of the hops in a covered vessel, add it as well as the sugar to the malt wort, heat until it is milk-warm, and after placing in a vat or barrel, add the yeast and let it stand 24 hours. Then draw off into a clean barrel and bung tight. This comes as near to XXX ale as anything except the article itself.—*Druggists' Circular.*

Elixir Stoughtonii

(Stoughton's Bitters.)—
Take of Wormwod,
Orange peel,
Gentian; of each, 5 parts.
Rhubarb, 2 parts.
Cascarilla,
Aloes; of each 1 part.
Alcohol diluted, 200 parts.

Make either by maceration or percolation. This is one of the numerous stomach bitters of the 16th century, and a Professor Stoughton of Leyden, is said to have been the originator of this elixir of life. The compound tincture of gentian is a good substitute, and generally dispensed when the Stoughton elixir is not kept in stock.—*Ibid.*

Wine and Fermented Fruit Juices.

The detection of malic acid is not sufficient to prove sample of wine to be adulterated. The most certain procedure is to filter and add ammonia in excess. The fruit wines, when this has been done, deposit crystals, which adhere to the sides of the test-glass. Genuine grape wine, on the other hand, deposits a powder, much less in quantity, not adhering to the sides of the glass, and to the naked eye devoid of crystalline structure. Dissolved in dilute acetic acid, the deposit from cider and perry contains lime and phosphoric acid. In grape wine lime is also present, but in smaller quantity. In this case, if the precipitate given by oxalate of ammonia is filtered off, a fresh addition of ammonia gives a further precipitate. This is not the case with cider and perry. If perry and wine are mixed in equal proportions a deposit of crystal is found on the sides of the test-glass adding ammonia. In cider and perry the phosphoric acid is present in combination with lime, while in wine it is combined with magnesia. The most characteristic reaction is that with ammonia.—*Mechanics' Magazine.*

Apple Wine.

The following is highly commended

as a recipe for a home-made wine from apples: Sixty pounds of brown sugar, one pound of sulphite of lime, put into pure sweet cider from the press, enough to fill a 40 gallon barrel. Leave the bung out 48 hours, then bung it up and leave a small vent until fermentation wholly ceases. It should be kept in a cool place. When it has ceased to ferment it is ready for use. The longer it stands the better it is.

Syrup or Essence for Rum Punch.

Take Simple syrup.....	3 pints.
Boiling water.....	½ pint.
Green tea.....	2 drachms.
Citric acid.....	2½ "
Oil of lemons.....16	drops.
Jamaica rum.....	3 pints.

Infuse the tea in the boiling water; strain, add the citric acid, dissolve and add to the simple syrup; then dissolve the oil of lemons in the rum and mix the two liquids together. Filter, if necessary. To *make* a rum punch, add to the syrup an equal quantity of boiling water. Syrup for arrack punch and for brandy punch may be made in the same manner.

To clear the Throat of Fish-bones.

Remember that a raw egg will clear your throat of fish-bones. Put one in a little hot wine, add some sugar, and the fish-bones will slip down all the easier. P.S.—You can take the egg, wine and sugar, anyhow. They're good as a preventive; and you don't know what moment you may get a fish-bone in your throat.—*Druggists' Circular.*

Cheap Vinegar.

Take a quantity of common Irish potatoes, wash them until they are thoroughly clean, place them in a large vessel, and boil them until done. Drain off carefully the water that they were cooked in, straining it, if necessary, in order to remove every particle of the potato. Then put this potato-water into a jug or keg, which set near the stove, or in some place where it will be kept warm, and add one pound of sugar to about two and one half gallons of the water, some hop-yeast, or a small portion of whisky. Let it stand three or four weeks, and you will have excellent vinegar, at a cost of six or seven cents per gallon.—*Boston Journal of Chemistry.*

Spontaneous Combustion.

A curious instance of spontaneous combustion is reported from New Hampshire. A physician had prescribed linseed oil and camphor for a severe pain in the chest, and the patient complained of the heat soon after its application on cotton batting. In about an hour he protested he could bear it no longer, and before it could be removed it took fire, actually blazing up and burning the poor fellow's neck severely.

A Louisiana man puts a two-ounce can of nitro-glycerine inside of a chicken, tosses the chicken to an alligator, and the bayou which once knew that alligator knows him no more.

To Keep away Flies.

A correspondent of the *Druggists' Circular* proposes a simple means for keeping flies from the slab of the soda-water fountain. This is effected by washing the slab with a solution of sal soda; and it is stated that so long as the surface is covered by the alkaline salt no trouble will be experienced.

Oil of cloves is very effectual in protecting animals against flies and mosquitoes. A few drops rubbed on the skin are sufficient for a whole day.

The *Lilium auratum* will become even more popular than it has been if it be true, as stated by an eminent botanist, that it is a grand specific against house-flies, and that a single specimen of it in an apartment will keep it clear of those troublesome insects.

Red and Blue Lights.

An English Journal has a story *apropos* to the introduction of street-cars into English towns: An intoxicated man saw two tramway cars passing him the other evening with red and blue lights in the front and rear. His fuddled brain comprehended colored lights, and he was heard to say to himself, "Must be pretty sick—sickly here; they are running chemists' shops about on whe—wheels!"

A Method of obtaining Chemically Pure Albumen

Was given by the President of the Society of Chemical and Physical Sciences at its late meeting at Vienna: A hard-boiled egg is freed from its shell, and cut into pieces. The white is then carefully separated from the yolk, washed with water if need be, and digested for a long time with alcohol of 90° in a retort. After several days the alcohol is removed, and its place supplied with ether, in which the white of the egg is again digested for some days. By this means is obtained a dazzlingly white chalky powder, which is chemically pure albumen.

Cinchona in India.

Cinchona cultivation in Darjeeling is progressing favorably. Last year the Pomong garden, which is described as a commercial enterprise, yielded 36,000 lbs. of dry bark, and this season it will produce 50,000 lbs. A moderate estimate gives the produce of dry bark in the next three years at 200,000 lbs., calculated to yield 6,000 lbs. of quinine and 6,000 lbs. of other valuable alkaloids. "Fever-stricken Bengal," says *The Times* correspondent, "with its swamps and malaria, will hail the boon."—Dr. Goodman in the *Brit. Med. Journal.*

Sponges.

The fine, soft Syrian sponge is distinguished by its lightness, its fine flaxen color, its form, which is that of a cup, its surface convex, voluted, pierced with innumerable small orifices, the concave parts of which present canals of much greater diameter, which are prolonged to the exterior surface in such a manner that the summit is nearly always pierced throughout in many places. This sponge is sometimes blanched by the aid of caustic alkalies; but this preparation not only helps to destroy its texture, but also changes its color. This sponge is especially employed for the toilet, and its price is high. Specimens which are round-shaped, large and soft, sometimes produce very high prices. The fine sponge of the Grecian Archipelago is scarcely distinguishable from that of Syria, either before or after being cleansed; nevertheless, it is weightier, its texture is not so fine, and the holes with which it is pierced are at once larger and less in number. It is nearly of the same country as the former—in fact, the fishing for it extends along the Syrian coast as well as the lateral zone of the Archipelago and Barbary. The fine, hard sponge, called Greek, is less sought for than either of the preceding; it is, however, most useful for domestic and for certain industrial purposes. Its mass is irregular; it is of a yellowish color; it is hard and compact, and pierced with small holes. The white sponge of Syria, called Venetian, is esteemed for its lightness, the regularity of its form, and its solidity. In its rough state it is brown in color, and of a fine texture, compact and firm. When cleansed it becomes flaxen colored, and of a looser texture. The orifice of the great channels which traverse it are rough and bristly. The brown Barbary sponge, when first taken out of the water, presents itself as an elongated flattened body, gelatinous, and charged with blackish mud. It is then hard, heavy, coarse, and of a reddish color. When well washed in water it becomes round in shape, still remaining heavy and reddish. It presents many gaps, the intervals of which are occupied by a sinuous and tenacious network. It

is valuable for domestic use, because of the facility with which it absorbs water, and its great strength. Other sorts of sponges are very abundant. The blonde sponge of the Archipelago, often confounded with the Venetian; the hard Barbary sponge called gelina, which only comes by accident into France; the Solonica sponge is of middling quality; finally, the Bahama sponge, from the Antilles, is wanting in flexibility, and is a little harsh, and so is sold at a low price, having few useful properties to recommend it.—*From the Ocean World.*

Detection of Adulteration in Coffee.

In order to ascertain whether ground coffee has been mixed with either roasted corn or amylaceous substances generally, it is only necessary to treat the powder, first with dilute caustic potassa, and, after infiltration and addition of a large quantity of pure water, a solution of iodine is added, whereby the starch is detected.—*Chem. News*, from *Dingl. Polyt. Journ.*

Rye Coffee in Europe.

A Strasburger named Beckmann Oloffen has prepared a substitute for coffee by taking pulverized and roasted rye malt, mixing with it one-twentieth its weight of barley malt and some caramel, and exposing it to the vapor from roasting genuine coffee. In this manner part of the aroma always lost in roasting coffee is made use of to flavor the rye coffee. If we accept the conclusions of Aubert, that no caffeine is lost in roasting, the rye coffee has none of the poisonous properties of this alkaloid, and is preferable to the genuine. The discovery is said to have been already patented in England. —*Druggists' Circular.*

An exchange says: If an edge tool is so hard as to crumble, grind it on a dry stone until the edge turns blue; it will then cease to break and the temper will generally prove to be about right.

Size for Lace Curtains.

For sizing lace curtains, make a strong solution of four parts of borax, in hot water, to which add twelve parts of white shellac, and three parts of starch and isinglass, the latter two being first reduced to the form of a jelly by hot water.

To Preserve Vaccine Crusts.

"The following method was some years since described by a writer whose name I do not recollect. In January, 1870, I put up some crusts in this way, and after keeping them in my office exposed to the excessive heat of the summers since then, in September last, two years and eight months afterwards, successfully vaccinated with one. I think its virtues were somewhat impaired, however, for the proportion of successes in the few cases in which it was used was less than usual.

"Put the scabs, wrapped in paper or tinfoil, into a phial filled with freshly burnt alum, and seal it."

In this connection, I would like to call attention to the settling of the question of the relative value of long humanized and kine virus.

A large proportion—Wood says one-half—of those not re-vaccinated within seven or ten years, are liable, on exposure, to varioloid. Three-fifths or more of the re-vaccinations in the Prussian Army are successful. In my own and my immediate neighbors' practice, so far as I have inquired, the proportion during the past and present season is much larger—nearly all take, with many very sore arms. If susceptibility to vaccine is a test of susceptibility to small-pox poison, the proportion of unvaccinated in this vicinity who are liable to varioloid is much greater than that stated above.

Now, these results, taking the whole past generation together, must be regarded as a measure of the protective power of the *long humanized* virus, for until lately no other, so far as I am

aware, has been used. If now, the *non-humanized* vaccine virus is superior, a few years may be made to settle the matter. All that is needed is for all using it to keep a record of primary vaccinations for future reference. If, after extensive use over a sufficiently long series of years, there shall be shown a less susceptibility of the system to the vaccine and variolous poisons than where the long humanized virus has been used—in other words, if less varioloid and successful re-vaccinations are the results of the use of kine virus, its superiority to protect the system will be proved, and not otherwise.—*Med. and Surg. Journal.*

Recipe for Mucilage.

The best quality of mucilage in the market is made by dissolving clear glue in equal volumes of water and strong vinegar, and adding one-fourth of an equal volume of alcohol, and a small quantity of a solution of alum in water. The action of the vinegar is due to the acetic acid which it contains. This prevents the glue from gelatinizing by cooling; but the same result may be accomplished by adding a small quantity of nitric acid. Some of the preparations offered for sale are merely boiled starch, or flour, mixed with nitric acid to prevent the gelatinizing. Those preparations are very inferior in quality to that made from glue.

Storing Eggs.

An English agricultural paper gives the following directions for the storing of eggs: "A very good plan is to have a large board pierced with holes in regular rows. Many breeders keep them in bran; and this latter method is, perhaps, best for those meant only to be eaten; but for setting hens the pierced board has many obvious conveniences. They should be always kept with the large end downwards. This direction being exactly contrary to that usually given, we should state that our attention was first called specially to the subject by a most intelligent lady, who advocated this plan, alleging as the probable reason of its superiority, 'keeping eggs on the small end appears to me to cause the air-bubble to spread, detaching it from the shell, or rather from its membranous lining; and after being so kept for a fortnight the air-bubble will be found to be much spread, and the eggs to have lost much vitality, though still very good for eating.' She then described her success the other way, adding: 'Owing to this method of storing, such a thing as a stale egg has never been known in my house; and as regards success in hatching, for several seasons, when I was able to attend to the poultry myself, of many broods set every egg produced a chick.' We were by no means hasty in adopting or recommending this plan; but after careful observation and comparison for two seasons, have proved indisputably that both for eating or setting, eggs do keep much better the large end down. There is after a week a marked difference in eggs kept in the two positions as regards the spreading of the air-bubble—which is well known to affect both the freshness for eating and vitality for setting of stored eggs—and after three weeks the difference can be discerned even by the taste alone. It will, of course, matter little which mode is adopted, provided the eggs are used for either purpose within a short time; but the longer kept, the more the difference from the two positions increases; and while eggs stored with the small end down cannot be depended upon after a fortnight to produce more than a proportion of chickens, those kept in the way we now advocate will keep perfectly good for hatching a month, or even more. We have sent thirty dark Brahma eggs to Ohio, U. S., which were twenty-two days on the road; yet they produced eighteen strong, lively chickens, or sixty per cent., though the eggs must have been nearly a month old. We ought, however, to add that, as already observed, we based our

change of plan not on any single instance, however striking, but on systematic trial for two seasons. During each of these seasons we sent out about forty sittings (of ten each) dark Brahma eggs, and we satisfied ourselves most fully that, with the ordinary age of eggs thus sold by English fanciers—say from three to thirteen days—the difference in favor of eggs stored the large end down amounted to nearly 5 per cent. This may not be much; but, as already remarked, with age it increases, and we have proved as conclusively, by actual trial, that eggs may be set and successfully hatched, with remarkable uniformity, at ages which, kept in the usual method, would be nearly hopeless. We have known eggs kept a month hatch fairly, even on the old system; but we are now speaking of usual and average results, and simply place at the service of fanciers in general the results of patient trial, which have abundantly satisfied ourselves that there is a real difference in the product of the two positions. With regard to packing, so far as actual injury is concerned, we believe there is no difference whatever in the two ways; but if the journey occupy any time, the same position should be maintained for similar reasons."—*American Artisan.*

Glycerine Lotion.

Glycerine	3 fluid ounces.
Mucilage of quince-seeds, U. S. D.	10 " "
Cochineal, powder	5 grains.
Hot water	1½ fluid ounces.
Alcohol	2½ " "
Oil of rose	8 drops.
Gum arabic, powder	30 grains.
Water	8 fluid ounces.

Rub the powdered cochineal first with the hot water gradually added, and then add the alcohol. Then triturate the oil of rose well with the powdered gum arabic, and gradually add the water. With this mix well the solution first formed, filter and add the glycerine and the mucilage of quince-seeds; shake thoroughly. When applied to the skin it is said to impart an agreeably soft, smooth, and *velvety* feel, and it is highly recommended to prevent and cure chaps, roughness and irritation caused by exposure to cold during winter.—*Druggists' Cir. and Chem. Gaz.*

Moutarde a la Ravigote.

Take Parsley,	
Chevril,	
Cirrs, of each	2 ounces.
Cloves,	
Garlic,	
Thyme,	
Tarragon, of each	1 ounce.
Salt	8 "
Olive oil	4 "
Wine-vinegar	4 quarts.
Mustard-flour	sufficient.

Cut or contuse the plants and macerate them fifteen days in the vinegar; press the liquid out and add to the other ingredients so as to obtain twelve quarts of mustard. Enough water may be added to complete the necessary quantity of liquid.—*Ibidem.*

Cement to mend India-rubber Shoes.

Take Virgin caoutchouc	2 pounds.
Sulphide of carbon, 12 to 14	"

Cut the caoutchouc into thin slices, put it into a close vessel of tinned sheet-iron, pour over it the sulphide of carbon, and, by means of a water-bath, bring the temperature to about 86° Fah. The solution will take place promptly, but the liquid will thicken very soon, rendering the application difficult if not impossible. In order to prevent this thickening, the following solution must be added in a quantity sufficient to bring the mixture to the consistence of a thick paste:—

Take Virgin caoutchouc	1 pound.
Powdered resin	½ "
Spirits of turpentine	3 to 4 pounds.

Cut the rubber in pieces, heat in a suitable vessel over a moderate fire until

the gum becomes fluid; then add the resin and allow it to dissolve. When these materials are perfectly fluid, add the turpentine gradually by small portions at a time.

The cement thus obtained is said to fully answer the purpose of gluing together rubber surfaces as well as leather, or rubber and leather.

The Estimation of Phosphorus in Fatty Mixtures.

In order to separate phosphorus from articles of food, vomits, and other matters containing fatty substances, in such a state of purity that it may be unfailingly recognized by characteristic properties, and produced in court as evidence, D. A. von Bastelaer gives a process already found of advantage in several judicial inquiries, which is based essentially on the solubility of phosphorus in ether, and its almost perfect indifference towards solution of ammonia if in contact with it for only a short time. If the substance from which phosphorus is to be separated is not fluid, *e. g.*, phosphor paste, it is first reduced by addition of water to the condition of a sufficiently thin pap, in order that it may be thoroughly mixed with ether by agitating for some seconds. Not only the weight of the original substance taken, but also that of the added water is noted. After the reduction, about 100 grammes, or any other suitable weighed quantity of the fluid mass is taken, mixed with as much ether, and left in contact therewith in the cold for four or five hours, during which period the mixture is to be violently shaken at frequent intervals. The ether, being now decanted, is replaced with an equal quantity of fresh ether, and these operations are repeated about three times. The united ethereal liquids, protected from dust, are allowed to evaporate spontaneously at 15°-20° C. in a shallow dish. At this point some water is added, that the phosphorus may be protected from the action of the air after evaporation of the ether. If what remains after removal of the ether be gently warmed to 50°–60° C., the phosphorus unites itself with a portion of the fat, forming a fluid-globular mass under the water, whilst the remainder of the matter taken up by ether rises to the surface as a thin film. The globule containing phosphorus is now treated with about 10 to 15 grammes of strong aqueous ammonia in a small flask and violently agitated. This treatment is repeated a few times. Lastly, if the adhering ammonia be removed by washing first with water acidulated with sulphuric acid, and then with pure water, the phosphorus remains behind, certainly somewhat soft in consistence, but otherwise exhibiting all the physical and chemical properties which characterize it. It may be brought in a little glass tube and handed to the judge as *corpus delicti*.

Styptic Collodion.

The following will be found a most useful formula:—

Tannin.....	2 ounces.
Alcohol.....	4 fluid ounces.
Ether.....	12 " "
Soluble cotton...	1 drachm 2 scruples.
Canada balsam...	1 drachm.

Dissolve the tannin in one part of the alcohol, and the ether with the Canada balsam; then add the cotton.—*Dublin Med. Press and Cir.*

A Thomsonian Doctor

explained the use of mercury as follows:

"And now do you know how marcury produces the rheumatiz? I'll tell you exactly how marcury produces the rheumatiz. You see marcury has a great many sharp pints, and them sharp pints go straight in the flesh, and when the muscles rub over them sharp pints it scratches, and that's the rheumatiz."

BIBLIOGRAPHY.

A Treatise on the Diseases of the Eye. By J. Soelberg Wells, F.R.C.S., etc. Second American from the third English edition. Philadelphia: Henry C. Lea. 1873. Pp. 836.

When the popularity of a text-book on this subject is such that it secures its translation into two languages besides the one in which it was written, and when it passes through three editions in five years, it is fair to presume that, like good wine, it needs no "bush," in the form of critical reviews, to recommend it to the professional reader. The second American edition, like the first, has been edited by Dr. J. Minnis Hays, of Philadelphia, who, besides the few additions which the text has required, has given us, in the appendix, selections from the test-types of Jaeger and Snellen, and has added a considerable number of illustrations. The work has deservedly become a standard text-book here and abroad, and in its present improved form will, without doubt, maintain its reputation as the best English work on the subject.

The Student's Guide to Medical Diagnosis. By Samuel Fenwick, M.D., F.R.C.P., Assistant Physician to the London Hospital. From the third revised and enlarged English edition. Philadelphia: Henry C. Lea. 1873. Pp. 328.

The growing system of clinical instruction has rendered books like this a matter almost of necessity to the student who would gain, within the limits of the college curriculum, a comprehensive knowledge of the subjects taught. Our examination of this handy-book, by Dr. Fenwick, leads to a very favorable impression of it. It abounds in illustrations, many of which have been prepared especially for it. The style in which it is written is clear and terse, and the arrangement of the material upon a clinical basis adapts it not only to the student, but will render it a convenient guide for a busy practitioner in arriving at a diagnosis in difficult cases. The work does not embrace affections of the generative organs.

A System of Midwifery, Including the Diseases of the Pregnant and the Puerperal State. By William Leishman, M.D., Regius Professor of Midwifery in the University of Glasgow, etc., etc. With one hundred and eighty-two illustrations. Philadelphia: Henry C. Lea. 1873. Pp. 750.

"Of English Text-Books, some of the very best have long been out of print; some are out of date; and others are mere hand-books, in which the subject is, however, ably but cursorily treated. In our language scarcely a modern work exists which can be compared with those of Cazeaux and Scanzoni." This, in the author's words, is his apology for undertaking a work which, he says, he has intended to be a complete system of the midwifery of the present day. To accomplish this he has consulted all available authorities, and has succeeded in converting the gathered material into a work which shows its mode of origin in the pains taken to present the various opinions upon any particular subject, and the absence of the author's personality. This, it may be thought, may weaken the work as a text-book in which diversity of opinion is likely to prove to the student more confusing than instructive; but this can hardly prove an objection in the present instance, for the

narrative style which the author has adopted, the clearness with which the questions are treated, the absence of statistical tables and histories of cases, make the reading of the book easy and agreeable. A noteworthy subject for comment is the style with which the book is illustrated. Very few of the old stand-by woodcuts appear, but reduced cuts are given of Shultze's wandtafeln, and selections made from the works of Coste and other writers, and we fail in many instances to find what would seem to be a proper acknowledgment.

The portion of the work which we think most open to criticism is that relating to the use of the forceps; the author declaring that he prefers the straight to the double curved forceps, and closes his chapter, as we sometimes have instances in other parts of the work, with a paragraph which does not exactly admit the truth of his opponents' arguments, but departs from his usual clearness of style to write something which makes you wonder what he meant to express, and whether you read it correctly the first time—in other words, he assumes the "style medical," and doesn't commit himself any opinion.

The book cannot fail to become popular, and to meet a want for some time felt.

AN INTRODUCTION TO PRACTICAL CHEMISTRY; INCLUDING ANALYSIS. By JOHN E. BOWMAN, F.C.S. Edited by CHARLES L. BLOXAM, F.C.S. Sixth American from the sixth and revised English edition. Philadelphia: Henry C. Lea. 1873. Pp. 339.

THIS book, which in its various editions has been in the market since 1848, is already well known to American students, and requires but little comment. Important additions have been made in the present edition to the Examples for Practice in Quantitative Analysis, and more explicit directions have been given in order to render the operator in a measure independent of the assistance of an instructor. The details of the normal manipulations and the distinctive properties of the various substances are described succinctly and with great clearness. No book of this kind with which we are acquainted is better fitted for its purpose.

CLINICAL RESEARCHES IN ELECTRO-SURGERY. By A. D. ROCKWELL, A.M., M.D., etc., and GEO. M. BEARD, A.M., M.D., etc. New York: William Wood & Co. 1873. Pp. 72.

THIS little book contains the histories of something over thirty cases in which the galvanic current had been used by the authors for surgical purposes. The first of the two chapters embraces twenty cases of schirrus, epithelioma, fibroid and other tumors, seen in their own practice and in consultation with other physicians. The second chapter is devoted to skin affections, and shows that valuable results may follow the use of galvanism in the treatment of some of them. The book terminates with a description of some of the instruments employed. Altogether, the little work does credit to the authors, and will be welcomed by those who are working in electro-therapeutics.